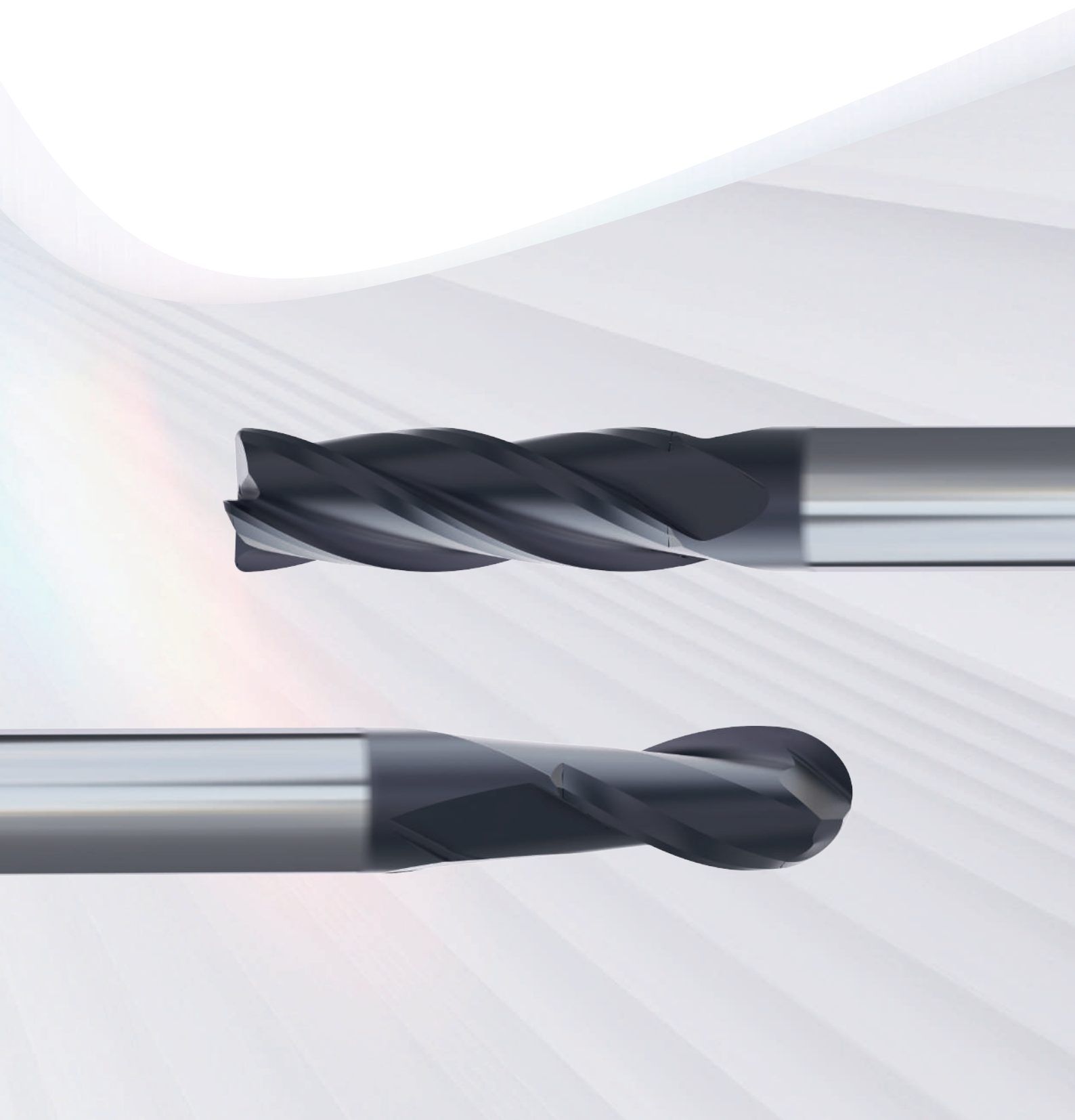




Catalog & technical guide

# Solid End Mills 2026.1





At Seco, we make tools, tech, and solutions for the most advanced manufacturing challenges on Earth. From our founding in Fagersta Sweden, to today's global company, our business has always been made to measure, and built on trust.

Combining cutting-edge, precision tools with lasting, personal partnerships, we're a true people company helping our partners discover the future of the manufacturing industry.

We're proud to make for makers, invent for inventors, and partner with pioneers. Driving the future forward with our focus on innovation. In short - if the right tool for the job exists, we'll deliver it. If it doesn't, we'll create it.

We're proud to put sustainability at the heart of everything we do, challenging perceptions of our industry, changing the process of manufacturing, and playing our own small part in shaping a brighter looking future.

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## Product family overview

### C-series

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This range of Seco solid carbide end mills covers basic end mills for basic machining operations. It includes universal coated and uncoated endmills. The wide range of products for universal machining  
The Seco C-series are available in a wide range of chamfer, square end and ballnose geometries for roughing and finishing when side milling, face milling or slotting.

### SOLID<sup>2</sup>

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Seco Solid<sup>2</sup> is a range of solid carbide end mills for applications in general machining, offering flexibility, speed and cost efficiency. Seco Solid<sup>2</sup> is available in a diameter range of  $\varnothing 1$ - $\varnothing 32$  mm and in *inch*  $\varnothing 1/32$  -  $1 \frac{1}{4}$ .  
Seco Solid<sup>2</sup> also includes a group of dedicated advanced roughing tools (JS564 and JS565).  
The 564 and 565 offer excellent performance when applied in well defined tool paths with constant arc of contact with high cutting speed and high cutting depth applications (advanced roughing).  
For the complete range of JS500 series tools all chamfer ( $c^{\circ}45^{\circ}$ ) have the following tolerances:  $c = DC \pm 0,01$ ,  $3 < DC \leq 6 \pm 0,02$ ,  $6 < DC \leq 10 \pm 0,03$ ,  $10 < DC \leq 14 \pm 0,04$ ,  $14 < DC \leq 18 \pm 0,05$ ,  $18 < DC \leq 24 \pm 0,06$ .  
Please see page 11 for a grouped overview of Seco Solid<sup>2</sup> products.

### Stabilizer

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Seco Stabilizer series end mills use unique flute geometries for extremely aggressive metal removal rates in high-performance machining  
The Seco stabilizer are available in a wide range of square end and ballnose geometries for roughing operations when side milling, slot milling and advanced roughing.

### HSM/TORNADO

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These tools are characterized by high precision tolerances, short cutting lengths, reduced necks and significant core diameters, maximizing rigidity. These tools have been developed to excel in peripheral milling and copy milling machining methods.  
Please see page 11 for a grouped overview of HSM/TORNADO (high speed machining) products.

## Product family overview

### HPM

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Optimized endmills are dedicated for original equipment manufacturers and first-tier suppliers where large batches of a single component have to be machined and where processes need to be fully optimized to reduce cycle times, reducing costs per part.

Please see page 12 for a grouped overview of HPM (high performance machining) products.

### HFM

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High feed machining is the first choice for applications with deep and shallow workpiece features, 3D profiling for mold & die applications and machining in unstable conditions. High feed tools excel in plunge milling machine methods.

Please see page 12 for a grouped overview of HFM (high feed machining) products.

## Product family overview

### MINI



Seco's range of micro solid carbide end mills consists of square end mills and ballnose cutters with small cutting diameters. Universal tools are applicable for common workpiece materials and specific tools are dedicated for graphite and hardened-steel applications. All tools have a thin layered coating for optimal performance in small-sized applications.

Please see page 12 for a grouped overview of MINI (micro machining) products.

### DIAMOND



Available in a variety of geometries and an extensive diameter range, these tools feature the best possible substrate to ensure the perfect adhesion of the diamond coating across a range of cutting parameters. Overall, these end mills significantly increase productivity and lower tooling costs by requiring fewer tool changes and being able to produce precision parts at high feed rates.

Please see page 12 for a grouped overview of DIAMOND (diamond coated) products.

### COMPOSITE



It consists of diamond-coated and uncoated solid carbide and PCD end mills incorporating different geometries as well as with PCD-brazed cutting edges. This is a product range offering optimized tools for difficult cutting conditions on challenging workpiece materials.

Please see page 12 for a grouped overview of COMPOSITE (JC) products.

### VHM



Includes universal coated and uncoated endmills, a range of products dedicated for machining plastics and aluminum, chamfer end mills and conical tools. These products consist of high-quality grades and coatings for predictable and premium tool life.

Please see page 13 for a grouped overview of VHM (general engineering) products.

## Product family overview

### CERAMIC



To cut the world's toughest heat-resistant superalloys (HRSA) quickly, you need a tool just as strong and advanced as the materials themselves. Streamline your processes and cut your HRSA parts considerably faster with these high-performance ceramic solid end mills. Please see page 13 for a grouped overview of CERAMIC products.

### HSS-CO



High speed steel cobalt is a premium grade that offers higher performance compared to traditional high speed steels. Due to increased hardness, these end mills last longer in today's abrasive, heat resistant and exotic materials. The high-quality, low-cost production advantages of these end mills are a direct result of engineered flute designs, wear resistant coatings and optimized features like internal coolant channels for these challenging materials. Please see page 13 for a grouped overview of HSS-CO products.

### X-Heads



With the Seco exchangeable head milling system, quickly and easily change between various solid carbide milling head profiles and types to optimize all your milling operations while you reduce manufacturing costs and tooling inventories. X-Heads end mills mount to a variety of available shank lengths for even greater versatility, with long-reach capability. End mill changes only require a simple turn of a wrench, and the shank could remain in the machine. Eliminate the need to reset tool lengths thanks to a secure and reliable connection that provides exchange accuracies within 50 microns. Please see page 609 for a grouped overview of X-heads (exchangeable heads) products.

## Product family overview

| Product family                                                           | Technology                 | Product | 1xx | 4xx | 5xx | 6xx | 7xx | 8xx | 9xx |
|--------------------------------------------------------------------------|----------------------------|---------|-----|-----|-----|-----|-----|-----|-----|
| C-series                                                                 | General machining          | C       |     |     | ■   |     |     |     |     |
| Solid <sup>2</sup>                                                       | General machining          | JS      |     | ■   | ■   |     | ■   |     |     |
| Stabilizer                                                               | High performance machining | ST      |     |     | ■   |     |     |     |     |
| HPM                                                                      | High performance machining | JHP     | ■   | ■   |     |     | ■   |     | ■   |
| HFM                                                                      | High feed machining        | JHF     | ■   |     |     |     |     |     | ■   |
| Mini                                                                     | Micro machining            | JM      | ■   | ■   | ■   | ■   |     |     | ■   |
| HSM/Tornado                                                              | High speed machining       | JH      | ■   | ■   |     |     | ■   |     | ■   |
| Ceramic                                                                  | High performance machining | JCG     |     |     |     |     | ■   |     |     |
| Diamond                                                                  | Graphite machining         | JD      |     |     |     | ■   |     |     |     |
| Composite                                                                | Composite machining        | JC, JPD |     |     |     |     |     | ■   |     |
| VHM                                                                      | General machining          | J       |     | ■   |     |     |     |     | ■   |
| HSS-E                                                                    | General machining          | JCO     |     |     |     |     | ■   |     |     |
| X-Heads - Solid <sup>2</sup>                                             | High performance machining | XS      |     | ■   | ■   |     | ■   |     |     |
| X-Heads - HFM                                                            | High feed machining        | XHF     |     |     | ■   |     | ■   |     |     |
| X-Heads - HSM/Tornado                                                    | High speed machining       | XH      |     |     | ■   |     | ■   |     |     |
| X-Heads - VHM                                                            | General machining          | XV      |     |     | ■   |     | ■   |     |     |
|                                                                          |                            |         |     |     |     |     |     |     |     |
| <b>SMG</b>                                                               |                            |         |     |     |     |     |     |     |     |
| P1-8                                                                     |                            |         |     |     | ■   |     |     |     | ■   |
| P11-12                                                                   |                            |         |     |     | ■   |     |     |     | ■   |
| M1-3                                                                     |                            |         |     |     | ■   |     | ■   |     |     |
| M4-5                                                                     |                            |         |     |     | ■   |     | ■   |     |     |
| K1-7                                                                     |                            |         |     |     | ■   |     |     |     | ■   |
| S1-3                                                                     |                            |         |     |     | ■   |     | ■   |     |     |
| S11-13                                                                   |                            |         |     |     | ■   |     | ■   |     |     |
| H                                                                        |                            |         | ■   |     | ■   |     |     |     |     |
| N1                                                                       |                            |         |     | ■   | ■   |     |     |     |     |
| N2-3                                                                     |                            |         |     | ■   | ■   |     |     |     |     |
| N11                                                                      |                            |         |     | ■   | ■   |     |     |     |     |
| TS                                                                       |                            |         |     | ■   |     |     |     | ■   |     |
| TP                                                                       |                            |         |     | ■   |     |     |     | ■   |     |
| GR                                                                       |                            |         |     |     |     | ■   |     |     |     |
| For further explanation on SMG (Seco material group) please see page 802 |                            |         |     |     |     |     |     |     |     |



## Summary

| Page     | Family name        | Name   | P1-8 | P11-12 | M1-3 | M4-5 | K1-7 | N1 | N2-3 | N11 | S1-3 | S11-13 | H3-31 | TS1 | TS2-3 | TS4 | TP1 | TP2-3 | TP4 | Honeycomb | GR |
|----------|--------------------|--------|------|--------|------|------|------|----|------|-----|------|--------|-------|-----|-------|-----|-----|-------|-----|-----------|----|
| 210      | C-Series           | C5021  | ●    | ○      | ●    | ○    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ○   |       |     | ○   |       |     |           | ○  |
| 212      |                    | C5041  | ●    | ○      | ●    | ○    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ○   |       |     | ○   |       |     |           | ○  |
| 38       |                    | C5121  | ●    | ○      | ●    | ○    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ○   |       |     | ○   |       |     |           | ○  |
| 50       |                    | C5131  | ●    | ○      | ●    | ○    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ○   |       |     | ○   |       |     |           | ○  |
| 56       |                    | C5141  | ●    | ○      | ●    | ○    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ○   |       |     | ○   |       |     |           | ○  |
| 73       |                    | C5231  | ●    | ○      | ●    | ○    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ○   |       |     | ○   |       |     |           | ○  |
| 73       |                    | C5241  | ●    | ○      | ●    | ○    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ○   |       |     | ○   |       |     |           | ○  |
| 181      |                    | C5321  | ●    | ○      | ●    | ○    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ○   |       |     | ○   |       |     |           | ○  |
| 189      |                    | C5341  | ●    | ○      | ●    | ○    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ○   |       |     | ○   |       |     |           | ○  |
| 466      | HPM                | HP4931 |      |        |      |      |      | ●  | ●    | ●   |      |        |       |     |       |     |     |       |     |           |    |
| 75       | SOLID <sup>2</sup> | JSE512 | ●    | ○      | ●    | ○    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ○   |       |     | ○   |       |     |           | ○  |
| 79       |                    | JSE513 | ●    | ○      | ●    | ○    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ○   |       |     | ○   |       |     |           | ○  |
| 85       |                    | JSE514 | ●    | ○      | ●    | ○    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ○   |       |     | ○   |       |     |           | ○  |
| 196      |                    | JSB512 | ●    | ○      | ●    | ○    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ○   |       |     | ○   |       |     |           | ○  |
| 95       |                    | JS553  | ●    | ●      | ●    | ●    | ●    | ●  | ●    | ●   | ●    | ●      | ●     | ●   |       |     | ●   |       |     |           | ○  |
| 115      |                    | JS554  | ●    | ●      | ●    | ●    | ●    | ●  | ●    | ●   | ●    | ●      | ●     | ●   |       |     | ●   |       |     |           | ○  |
| 443      |                    | JS412  |      |        |      |      |      | ●  | ●    | ●   |      |        |       |     |       |     | ●   |       |     |           |    |
| 446      |                    | JS413  |      |        |      |      |      | ●  | ●    | ●   |      |        |       |     |       |     | ●   |       |     |           |    |
| 485      |                    | S4321  |      |        |      |      |      | ●  | ●    | ●   |      |        |       |     |       |     | ●   |       |     |           |    |
| 449      |                    | S4521  |      |        |      |      |      | ●  | ●    | ●   |      |        |       |     |       |     | ●   |       |     |           |    |
| 454      |                    | S4531  |      |        |      |      |      | ●  | ●    | ●   |      |        |       |     |       |     | ●   |       |     |           |    |
| 463      |                    | S4651  |      |        |      |      |      | ●  | ●    | ●   |      |        |       |     |       |     |     |       |     |           |    |
| 174      |                    | JS520  | ●    | ○      | ○    | ○    | ●    | ●  | ●    | ●   | ○    | ●      | ○     | ●   |       |     | ●   |       |     |           | ○  |
| 178      |                    | JS522  | ●    | ●      | ●    | ●    | ●    | ●  | ●    | ●   | ○    | ●      | ●     | ●   |       |     | ●   |       |     |           | ○  |
| 198      |                    | JS532  | ●    | ○      | ●    | ○    | ●    | ●  | ●    | ●   | ○    | ●      | ○     | ●   |       |     | ●   |       |     |           | ○  |
| 202      |                    | JS533  | ●    | ○      | ●    | ○    | ●    | ●  | ●    | ●   | ○    | ●      | ○     | ●   |       |     | ●   |       |     |           | ○  |
| 206      |                    | JS534  | ●    | ○      | ●    | ○    | ●    | ●  | ●    | ●   | ○    | ●      | ○     | ●   |       |     | ●   |       |     |           | ○  |
| 214      |                    | JS506  | ●    | ○      | ●    | ○    | ●    | ●  | ●    | ●   | ○    | ●      | ○     | ●   |       |     | ●   |       |     |           | ○  |
| 218      |                    | JS509  | ●    | ○      | ●    | ○    | ●    | ●  | ●    | ●   | ○    | ●      | ○     | ●   |       |     | ●   |       |     |           | ○  |
| 166      |                    | JS564  | ●    | ○      | ●    | ○    | ●    | ●  | ●    | ●   | ●    | ●      | ●     | ●   |       |     |     |       |     |           |    |
| 170      |                    | JS565  | ●    | ○      | ●    | ○    | ●    | ●  | ●    | ●   | ●    | ●      | ●     | ●   |       |     |     |       |     |           |    |
| 354      |                    | JS720  |      |        | ●    | ●    |      |    |      |     | ●    | ●      | ●     |     |       |     |     |       |     |           |    |
| 374      |                    | JS730  |      |        | ●    | ●    |      |    |      |     | ●    | ●      | ●     |     |       |     |     |       |     |           |    |
| 326      |                    | JS754  |      | ○      | ●    | ●    |      |    |      |     | ●    | ●      | ●     |     |       |     |     |       |     |           |    |
| 343      |                    | JS755  |      | ○      | ●    | ●    |      |    |      |     | ●    | ●      | ●     |     |       |     |     |       |     |           |    |
| 474      | HSM/TORNADO        | JH40   |      |        |      |      |      | ●  |      | ●   |      |        |       | ●   |       |     |     |       |     |           |    |
| 313, 517 |                    | JH112  |      |        |      |      | ●    |    |      |     |      |        | ●     |     |       |     |     |       |     |           |    |
| 507      |                    | JH120  |      |        |      |      |      |    |      |     |      |        | ●     |     |       |     |     |       |     |           |    |
| 509      |                    | JH130  |      |        |      |      |      |    |      |     |      |        | ●     |     |       |     |     |       |     |           |    |
| 303, 514 |                    | JH142  | ●    | ●      |      |      | ●    |    |      |     |      |        | ●     |     |       |     |     |       |     |           |    |
| 520      |                    | JH150  |      |        |      |      | ●    |    |      |     |      |        | ●     |     |       |     |     |       |     |           |    |
| 522      |                    | JH160  | ●    | ○      |      |      |      |    |      |     |      |        | ●     |     |       |     |     |       |     |           |    |
| 481      |                    | JH410  |      |        |      |      |      | ●  |      | ●   |      |        |       | ●   |       |     |     |       |     |           |    |
| 477      |                    | JH421  |      |        |      |      |      | ●  |      | ●   |      |        |       | ●   |       |     | ●   |       |     |           |    |
| 483      |                    | JH440  |      |        |      |      |      | ●  | ●    | ●   |      |        |       | ●   |       |     | ●   |       |     |           |    |
| 488      |                    | JH450  |      |        |      |      |      | ●  | ●    | ●   |      |        |       | ●   |       |     | ●   |       |     |           |    |
| 490      |                    | JH460  |      |        |      |      |      | ●  |      | ●   |      |        | ●     | ●   |       |     | ●   |       |     |           |    |
| 417      |                    | JH710  |      |        |      |      |      |    |      |     | ●    | ●      | ●     |     |       |     |     |       |     |           |    |
| 427      |                    | JHB720 |      |        | ●    | ●    |      | ●  | ●    | ●   | ○    | ●      | ●     | ●   |       |     | ●   |       |     |           |    |
| 429      |                    | JH721  |      |        |      |      |      |    |      |     | ●    | ●      | ●     |     |       |     |     |       |     |           |    |
| 431      |                    | JH722  |      |        |      |      |      |    |      |     | ●    | ●      | ●     |     |       |     |     |       |     |           |    |
| 431      |                    | JH724  |      |        | ●    | ●    |      |    |      |     | ●    | ●      | ●     |     |       |     |     |       |     |           |    |
| 431      |                    | JH726  |      |        | ●    | ●    |      |    |      |     | ●    | ●      | ●     |     |       |     |     |       |     |           |    |
| 421      |                    | JH730  |      |        |      |      |      |    |      |     | ●    | ●      | ●     |     |       |     |     |       |     |           |    |
| 405      |                    | JH734  | ○    | ●      | ●    |      |      |    |      |     | ○    | ●      | ●     |     |       |     |     |       |     |           |    |
| 407      |                    | JH736  | ○    | ●      | ●    |      |      |    |      |     | ○    | ●      | ●     |     |       |     |     |       |     |           |    |
| 415      |                    | JH740  |      |        |      |      |      |    |      |     | ●    | ●      | ●     |     |       |     |     |       |     |           |    |
| 409      |                    | JH744  | ○    | ●      | ●    |      |      |    |      |     | ○    | ●      | ●     |     |       |     |     |       |     |           |    |
| 411      |                    | JH746  | ○    | ●      | ●    |      |      |    |      |     | ○    | ●      | ●     |     |       |     |     |       |     |           |    |
| 413      |                    | JH770  |      |        |      |      |      |    |      |     | ●    | ●      | ●     |     |       |     |     |       |     |           |    |
| 425      |                    | JH780  |      |        |      |      |      |    |      |     | ●    | ●      | ●     |     |       |     |     |       |     |           |    |
| 419      |                    | JH790  |      |        |      |      |      |    |      |     | ●    | ●      | ●     |     |       |     |     |       |     |           |    |
| 222      |                    | JH910  | ●    | ○      | ●    | ●    | ●    |    |      |     | ●    | ●      | ●     |     |       |     | ●   |       |     |           | ●  |
| 226, 511 |                    | JH930  | ●    | ○      |      |      | ●    |    |      |     | ●    | ●      | ●     | ●   |       |     |     |       |     |           |    |
| 228, 311 |                    | JHB970 | ●    | ○      | ●    | ●    |      |    |      |     | ●    | ●      | ●     | ●   |       |     |     |       |     |           |    |

● Preferred choice, ○ Alternative choice

# Summary

| Page | Family name        | Name           | P1-8 | P11-12 | M1-3 | M4-5 | K1-7 | N1 | N2-3 | N11 | S1-3 | S11-13 | H3-31 | TS1 | TS2-3 | TP1 | TP2-3 | TS2/TP2+N1 | TS2/TP2+S12 | Honeycomb | GR |
|------|--------------------|----------------|------|--------|------|------|------|----|------|-----|------|--------|-------|-----|-------|-----|-------|------------|-------------|-----------|----|
| 306  | Stabilizer         | ST5341         | •    | •      |      |      | •    |    |      |     |      |        |       |     |       |     |       |            |             |           |    |
| 276  |                    | ST5541         | •    | •      |      |      | •    |    |      |     |      |        |       |     |       |     |       |            |             |           |    |
| 140  |                    | ST5551         | •    | •      | •    | •    | •    | •  | •    | •   | •    | •      | •     | •   | •     | •   |       |            |             |           | ○  |
| 501  | HPM                | JHP170         |      |        |      |      |      |    |      |     |      |        |       | •   |       |     |       |            |             |           |    |
| 470  | Solid <sup>2</sup> | S4931          |      |        |      |      |      | •  | •    |     |      |        |       |     |       |     |       |            |             |           |    |
| 378  | HPM                | JHP751         |      |        |      |      |      |    |      |     | •    | •      |       |     |       |     |       |            |             |           |    |
| 381  |                    | JHP760         |      |        | •    | •    |      |    |      |     |      |        |       |     |       |     |       |            |             |           |    |
| 385  |                    | JHP770         |      |        |      |      |      |    |      |     |      | •      |       |     |       |     |       |            |             |           |    |
| 392  |                    | JHP780         |      |        |      |      |      |    |      |     | •    |        |       |     |       |     |       |            |             |           |    |
| 381  |                    | JHP794         |      |        | •    | •    |      |    |      |     |      |        |       |     |       |     |       |            |             |           |    |
| 299  |                    | JHP951         | •    | ○      |      |      | •    |    |      |     |      |        |       |     |       |     |       |            |             |           |    |
| 293  |                    | JHP993         | •    | ○      |      |      | •    |    |      |     |      |        |       |     |       |     |       |            |             |           |    |
| 423  |                    | JHP994         |      |        |      |      |      |    |      |     | •    | •      |       |     |       |     |       |            |             |           |    |
| 504  | HFM                | JHF181         | ○    | ○      |      |      | •    |    |      |     | •    | •      | •     |     |       |     |       |            |             |           |    |
| 504  |                    | SHF712         |      |        |      |      |      |    |      |     |      |        |       |     |       |     |       |            |             |           |    |
| 230  |                    | JHF980         | •    | ○      | •    | •    | •    |    |      |     | •    | •      | ○     |     |       |     |       |            |             |           |    |
| 531  | MINI               | JMB112         |      |        |      |      |      |    |      |     |      |        |       | •   |       |     |       |            |             |           |    |
| 524  |                    | JME142         |      |        |      |      |      |    |      |     |      |        |       | •   |       |     |       |            |             |           |    |
| 529  |                    | JME144         |      |        |      |      |      |    |      |     |      |        |       | •   |       |     |       |            |             |           |    |
| 494  |                    | JM403/404/406  |      |        |      |      |      | •  | •    |     |      |        |       |     |       |     |       |            |             |           |    |
| 496  |                    | JM413/416      |      |        |      |      |      | •  | •    | •   |      |        |       | •   |       | •   |       |            |             |           |    |
| 496  |                    | SMB413/414/416 |      |        |      |      |      | •  | •    |     |      |        |       | •   |       | •   |       |            |             |           |    |
| 264  |                    | JMB542         | •    | •      | •    | •    |      | ○  | ○    | ○   |      | •      | ○     |     |       |     |       |            |             |           | ○  |
| 267  |                    | JMB562         | •    | •      | •    | •    |      | ○  | ○    | ○   |      | •      | ○     |     |       |     |       |            |             |           | ○  |
| 271  |                    | JMB563         | •    | •      | •    | •    |      | ○  | ○    | ○   |      | •      | ○     |     |       |     |       |            |             |           | ○  |
| 254  |                    | JME542         | •    | •      | •    | •    |      | ○  | ○    | ○   |      | •      | ○     |     |       |     |       |            |             |           | ○  |
| 257  |                    | JME562         | •    | •      | •    | •    |      | ○  | ○    | ○   |      | •      | ○     |     |       |     |       |            |             |           | ○  |
| 261  |                    | JME564         | •    | •      | •    | •    |      | ○  | ○    | ○   |      | •      | ○     |     |       |     |       |            |             |           | ○  |
| 261  | MINI DIAMOND       | SMB713/714/416 |      |        |      |      |      |    |      |     |      |        |       |     |       |     |       |            |             |           |    |
| 261  |                    | JME714/716     |      |        |      |      |      |    |      |     | •    | •      |       |     |       |     |       |            |             |           |    |
| 606  |                    | JMB642/JMB662  |      |        |      |      |      |    |      |     |      |        |       |     |       |     |       |            |             |           | •  |
| 606  |                    | JMB662         |      |        |      |      |      |    |      |     |      |        |       |     |       |     |       |            |             |           | •  |
| 604  | MINI DIAMOND       | JME642         |      |        |      |      |      |    |      |     |      |        |       |     |       |     |       |            |             |           | •  |
| 604  |                    | SMB614/616     |      |        |      |      |      |    |      |     |      |        |       |     |       |     |       |            |             |           | •  |
| 594  | DIAMOND            | JD620          |      |        |      |      |      |    |      |     |      |        |       |     |       |     |       |            |             |           | •  |
| 596  |                    | JD630          |      |        |      |      |      |    |      |     |      |        |       |     |       |     |       |            |             |           | •  |
| 598  |                    | JD640          |      |        |      |      |      |    |      |     |      |        |       |     |       |     |       |            |             |           | •  |
| 600  |                    | JD660          |      |        |      |      |      |    |      |     |      |        |       |     |       |     |       |            |             |           | •  |
| 539  | COMPOSITE          | D8961          |      |        |      |      |      |    |      |     |      |        |       |     | •     |     | •     |            |             |           |    |
| 542  |                    | JC845          |      |        |      |      |      |    |      |     |      |        |       |     | •     |     | •     |            |             |           |    |
| 544  |                    | JC850          |      |        |      |      |      |    |      |     |      |        |       |     | •     |     | •     |            |             |           |    |
| 546  |                    | JC860          |      |        |      |      |      |    |      |     |      |        |       |     | •     |     | •     |            |             | •         |    |
| 548  |                    | JC870          |      |        |      |      |      |    |      |     |      |        |       |     | •     |     | •     |            |             | •         |    |
| 554  |                    | JC871          |      |        |      |      |      |    |      |     |      |        |       |     | •     |     | •     |            |             | •         |    |
| 560  |                    | JC875          |      |        |      |      |      |    |      |     |      |        |       |     | •     |     | •     |            |             |           |    |
| 564  |                    | JC876          |      |        |      |      |      |    |      |     |      |        |       |     | •     |     | •     |            |             |           |    |
| 568  |                    | JC877          |      |        |      |      |      |    |      |     |      |        |       |     | •     |     | •     |            |             |           |    |
| 572  |                    | JC880          |      |        |      |      |      |    |      |     |      |        |       |     | •     |     | •     |            |             |           |    |
| 574  |                    | JC885          |      |        |      |      |      |    |      |     |      |        |       |     | •     |     | •     |            |             |           |    |
| 576  |                    | JC898          |      |        |      |      |      |    |      |     |      |        |       |     |       |     |       | •          | •           |           |    |
| 578  |                    | JC899          |      |        |      |      |      |    |      |     |      |        |       |     |       |     |       | •          | •           |           |    |
| 581  | PCD                | JPD850         |      |        |      |      |      |    |      |     |      |        |       |     | •     |     | •     |            |             |           |    |
| 583  |                    | JPD880         |      |        |      |      |      |    |      |     |      |        |       |     | •     |     | •     |            |             |           |    |
| 585  |                    | JPD890         |      |        |      |      |      |    |      |     |      |        |       |     | •     |     | •     |            |             |           |    |

## Summary

| Page | Family name                | Name           | P1-8 | P11-12 | M1-3 | M4-5 | K1-7 | N1 | N2-3 | N11 | S1-3 | S11-13 | H3-31 | TS1 | TS2-3 | TS4 | TP1 | TP2-3 | TP4 | Honeycomb | GR |
|------|----------------------------|----------------|------|--------|------|------|------|----|------|-----|------|--------|-------|-----|-------|-----|-----|-------|-----|-----------|----|
| 589  | VHM                        | J28            |      |        |      |      |      |    |      |     |      |        |       | ●   |       |     |     |       |     |           |    |
| 237  |                            | J36            | ○    | ●      | ○    | ○    | ○    | ○  | ●    | ●   | ○    | ○      |       | ○   |       |     | ○   |       |     |           |    |
| 240  |                            | HK/HKM         | ●    |        | ●    | ●    | ●    | ●  | ○    |     | ●    | ●      | ●     | ●   | ●     |     | ●   |       |     |           |    |
| 251  |                            | V31            | ●    | ○      | ●    | ○    | ●    | ●  | ●    | ●   | ●    | ●      | ●     | ●   | ●     |     | ●   |       |     |           | ●  |
| 234  |                            | J29            | ●    | ●      | ●    | ●    | ●    | ●  | ●    | ●   | ●    | ●      | ○     | ●   |       |     | ●   |       |     |           | ●  |
| 587  |                            | J93F           |      |        |      |      |      |    |      |     |      |        |       | ●   |       |     | ●   |       |     |           |    |
| 399  | Ceramic                    | JCG790         |      |        |      |      |      |    |      |     | ●    |        |       |     |       |     |     |       |     |           |    |
| 669  | X-HEADS SOLID <sup>2</sup> | XS5021         | ●    | ●      | ●    | ●    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ●   | ●     |     | ●   |       |     |           | ○  |
| 671  |                            | XS5061         | ●    | ●      | ●    | ●    | ●    | ○  | ○    | ○   | ○    | ○      | ○     | ●   | ●     |     | ●   |       |     |           | ○  |
| 620  |                            | XSE550         | ●    | ●      | ●    | ●    | ●    | ●  | ●    | ●   | ●    | ●      | ●     | ●   | ●     |     | ●   |       |     |           | ○  |
| 637  |                            | XSB540         | ●    | ○      | ●    | ●    | ●    | ●  | ●    | ●   | ○    | ●      | ○     | ●   |       |     | ●   |       |     |           | ○  |
| 639  |                            | XSE720         | ○    | ●      | ●    | ●    | ●    |    |      |     | ●    | ●      |       |     |       |     |     |       |     |           |    |
| 651  |                            | XSE450         |      |        |      |      | ●    | ●  | ●    |     | ○    | ○      |       | ●   |       |     | ●   |       |     |           |    |
| 645  |                            | XSB720         | ○    | ●      | ●    | ●    | ●    |    |      |     | ●    | ●      |       |     |       |     |     |       |     |           |    |
| 655  | X-HEADS HSM/TORNADO        | XHT740         | ○    | ●      | ●    | ●    | ●    |    |      |     | ○    | ●      |       |     |       |     |     |       |     |           |    |
| 658  | X-HEADS HFM                | XHF580         | ●    | ●      | ●    | ●    | ●    |    |      |     | ○    | ○      | ○     |     |       |     |     |       |     |           |    |
| 663  |                            | XHF780         | ○    | ○      | ●    | ●    | ●    |    |      |     | ●    | ●      | ○     |     |       |     |     |       |     |           |    |
| 680  | X-HEADS VHM                | XVE540         | ●    | ●      | ●    | ●    | ●    | ●  | ●    | ●   | ○    | ○      | ○     | ●   | ●     |     | ●   |       |     |           | ○  |
| 685  |                            | XVE510         | ●    | ●      | ●    | ●    | ●    | ○  | ○    | ○   | ○    | ○      |       | ●   |       |     | ●   |       |     |           | ○  |
| 688  |                            | XVB510         | ●    | ●      | ●    | ●    | ●    | ○  | ○    | ○   | ○    | ○      |       | ●   |       |     | ●   |       |     |           | ○  |
| 692  |                            | XVC506/509/512 | ●    | ●      | ●    | ●    | ●    | ○  | ○    | ○   | ○    | ○      |       | ●   |       |     | ●   |       |     |           | ○  |
| 696  |                            | XVK310         | ●    | ●      | ●    | ●    | ●    | ●  | ●    | ●   | ○    | ○      | ○     | ●   |       |     | ●   |       |     |           | ○  |

● Preferred choice, ○ Alternative choice

## Code keys

### Solid end mills (new)

|   |   |      |   |     |   |   |      |    |    |    |       |
|---|---|------|---|-----|---|---|------|----|----|----|-------|
| R | S | 4321 | - | 100 | D | 2 | R050 | .0 | Z3 | C  | , AXT |
| 1 | 2 | 3    |   | 5   | 6 | 7 | 8    | 9  | 10 | 11 | 12    |

### Solid end mills

|   |    |     |     |   |   |      |    |    |    |       |
|---|----|-----|-----|---|---|------|----|----|----|-------|
| R | JS | 720 | 100 | D | 2 | R050 | .0 | Z6 | C  | , HXT |
| 1 | 2  | 3   | 5   | 6 | 7 | 8    | 9  | 10 | 11 | 12    |

### X-Heads – Heads

|   |     |     |     |     |   |   |      |    |    |        |
|---|-----|-----|-----|-----|---|---|------|----|----|--------|
| R | XSE | 550 | E10 | 100 | D | 2 | R050 | Z4 | A  | , SIRA |
| 1 | 2   | 3   | 4   | 5   | 6 | 7 | 8    | 10 | 11 | 12     |

### 1. Type of product

BLANK = Standard (catalogue) product  
R = Reconditioned product (complete)  
RK = Reconditioned product (frontal)

### 2. Product range

J = VHM  
JC = Composites  
JD = Diamond  
JH = HSM/Tornado  
JHF = HFM  
JHP = HPM  
JM = Mini  
JS = SOLID<sup>2</sup>

JPD = PCD  
JCO = HSS-Co  
JCG = Ceramic  
C = C-serie  
ST = Stabilizer  
XS\* = X-Head SOLID<sup>2</sup>  
XH\* = X-Head HSM/Tornado  
XV\* = X-Head VHM  
XHF = X-Head HFM

### 3. Geometry

A three-digit combination specifying the cutting geometry. Example: 111, 950, 553, 514, etc.

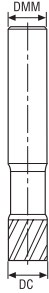
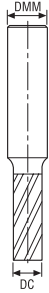
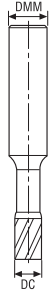
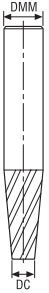
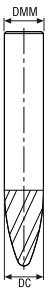
### 4. Connection size

This figure indicates the threading connection size between the head and adaptor  
E10 = 10 mm  
E12 = 12 mm  
E16 = 16 mm  
E20 = 20 mm  
E25 = 25 mm

### 5. Cutting diameter

Metric = 3 digit code (in case of 4 digit code – xx,xx mm)  
Imperial = a dot followed by a 3 digit code  
Example: (050 = metric, 5 mm) / (.500 = imperial, ½ inch)

## 6. Tool shape

| (DC = DMM)                                                                         |                                                                                    | (DC < DMM)                                                                        |                                                                                   |                                                                                      | (DC > DMM)                                                                          |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|   |   |  |  |   |  |
| <b>D</b>                                                                           | <b>E</b>                                                                           | <b>F</b>                                                                          | <b>G</b>                                                                          | <b>J</b>                                                                             | <b>P</b>                                                                            |
| Form shape                                                                         |                                                                                    |                                                                                   |                                                                                   |                                                                                      |                                                                                     |
|  |  |                                                                                   |                                                                                   |  |                                                                                     |
| <b>N</b>                                                                           | <b>X</b>                                                                           |                                                                                   |                                                                                   | <b>T</b>                                                                             |                                                                                     |

## 7. Length of shape

A single digit that gives an indication of the length of the cutter compared to other products with the same cutting geometry.

## 9. Type of shank

.0 = Cylindrical  
.3 = Weldon  
.5 = Whistle Notch  
.9 = Safe-Lock

## 10. Number of flutes

This figure indicates the number of flutes in the cutter.  
Example: PCEDC2= 2 flutes, PCEDC6 = 6 flutes

## 11. Extension

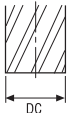
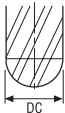
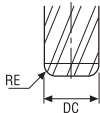
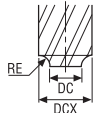
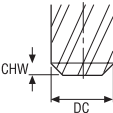
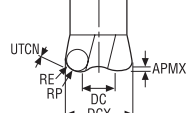
BLANK = Standard  
A = Internal coolant channel(s)  
C = Chip splitters  
D = Double end  
NC = Numerical Control tolerance

## 12. Grades

4 character code specifying the coating on the cutter.

|        |           |        |      |
|--------|-----------|--------|------|
| MEGA = | MEGA      | DURA = | DURA |
| MT =   | MEGA-T    | NXT =  | NXT  |
| M64 =  | MEGA-64   | HXT =  | HXT  |
| M64 T= | MEGA-64-T | STAX = | STAX |
| SIRA = | SIRON-A   | TAN =  | TAN  |
| HEMI = | HEMI      | M9 =   | M9   |
| DIA =  | DIAMOND   | AXT =  | AXT  |

## 8. Tip shape

| Sharp                                                                             | Ball-nose                                                                         | Corner radius                                                                     | Concave radius                                                                    | Chamfer                                                                             | High feed                                                                           |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| <b>S</b>                                                                          | <b>B</b>                                                                          | <b>R...</b>                                                                       | <b>K...</b>                                                                       | <b>C</b>                                                                            | <b>H</b>                                                                            |

### Size of radius for convex and concave radius tipped products

000 = For metric products the tip shape is shown by a three-digit figure.  
By dividing this figure by 100 you will get the actual corner radius size in millimetres.

.000 = For imperial products the tip shape is shown by a dot, followed by a three-digit figure.  
This figure actually shows the size of the corner radius in *inch* (e.g. R.100 would indicate a radius of 0.100 *inch*).

## Code keys

### X-Heads – Shanks

|   |     |     |   |   |         |    |    |   |
|---|-----|-----|---|---|---------|----|----|---|
| X | E10 | 100 | E | 2 | - 055 - | 00 | .0 | S |
| 1 | 2   | 3   | 4 | 5 | 6       | 7  | 8  | 9 |

#### 1. Product range

X = X-Head Cylindrical shank

#### 2. Connection size

This figure indicates the threading connection size between the head and adaptor

E10 = 10 mm

E12 = 12 mm

E16 = 16 mm

E20 = 20 mm

E25 = 25 mm

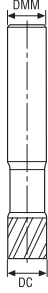
#### 3. Shank diameter

Metric = 3 digit code

Imperial = a dot followed by a 3 digit code

Example: (050 = metric, 5 mm) / (.500 = imperial, 1/2 inch)

#### 4. Tool shape

| (DC = DMM)                                                                         | (DC < DMM)                                                                         |                                                                                      |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |  |
| <b>E</b>                                                                           | <b>G</b>                                                                           | <b>J</b>                                                                             |

#### 5. Length of shape

A single digit that gives an indication of the length of the cutter compared to other products with the same cutting geometry.

#### 6. Overall length

Metric = 3 digit code

Imperial = 3 digit code with a dot after the first digit

Example: (055 = metric, 55 mm) / (2.50 = imperial, 2 1/2 inch)

#### 7. Taper angle

Indicates the body half taper angle.

Example: (00 = 0°; 05 = 5°; 10 = 10°)

#### 8. Type of shank

.0 = Cylindrical

.3 = Weldon

.5 = Whistle Notch

.9 = Safe-Lock

#### 9. Type of material

Indicates the different shank materials that are available.

S = Steel

DM = Densimet

E = Solid Carbide

## How our solutions can benefit you

### The individual solution - Custom and modified tools



If the requirements are very special, we have the right solution with our individual and customized tools - solutions that have been tailored specifically to your individual requirements. This will enable you to take your machining productivity to a whole new level. In addition to the standard solutions, our offer includes:

#### Custom tools

They are modified geometries or form shaped tools for customer specific demands as we can fully cooperate with the customer and design a specific tool which answers the needs. Examples can be:

- Modified tools within a standard geometry
- MEP (Mechanised edge Profiling)
- Firtree,
- Dovetail
- Tapered ballnose
- Condyle cutter
- Form shaped tools
- Barrel

#### Modified tools

Seco offers a quick delivery solution for standard tools requiring modification to meet specific dimensional requirements as this can be:

- (full) Radius/Facet/Chamfer/Concave
- OD reduction (neck reduction), including increased length
- Coating (application for uncoated tools)
- Reduced cutting diameter
- Chip breakers
- Adding Weldon / Safelock
- External coolant channels

### Reconditioning cuts cost and tools inventory

Seco's modern carbide tools offer remarkable performance by utilizing the best combinations of carbide substrates with highly wear resistant coatings, optimized cutting geometry and controlled edge preparation.

However good a tool is, as part of its function, it will eventually show signs of wear on the cutting edge. Controlling this wear and the timely replacement of the tool will allow the used tool to be reconditioned, thus reducing tool investment costs. And we use the same advanced technology to recondition your solid carbide tools as we use to manufacture new products.

#### Your benefits from reconditioning

- Manufactured to Seco's high standards with the original Seco geometry, edge preparation and coating processes.
- Savings on tooling costs by repeated use of the same solid carbide tool.
- Our easy to use and free 'reconditioning box' includes a pre-prepared delivery note.
- Free, reliable collection on the following day when you call your Seco contact for pick up.
- An easy process due to the package service, reconditioning box and prepared delivery note.
- Delivery via the normal Seco channels.
- Safe transportation and storage of the reconditioned tools by packaging them in similar packaging as new tools.
- A new packaging label is included.
- Work towards greener and cleaner environment. -Seco's processes are globally certified with ISO14001.
- Guaranteed quality, as all processes are ISO9001 certified.



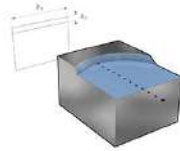
## Basic operations:

### Face milling:

Operation where the tool is in engagement with less than  $180^\circ$  arc of contact.

Tool engagement:

Small  $a_p$  and large  $a_e$ .



### Slot milling:

Operation where the full diameter is in engagement,  $a_e$  is equal to DC and  $a_p$  up to 2 times DC depending on the machining strategy in use.



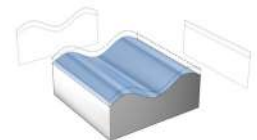
### Side milling:

Operation where the side of the tool is in engagement,  $a_p$  is large and  $a_e$  is small.



### Copy milling:

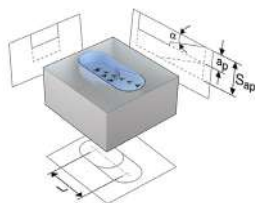
Operation where the radius is in engagement.  $a_p$  and  $a_e$  are both small.



## Advanced machining methods:

### Ramping:

Opening up a pocket by making a Z axis at an angle.



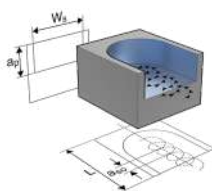
### Helical interpolation ramping:

Opening a pocket by making a circular movement with the tool while ramping in Z axis.



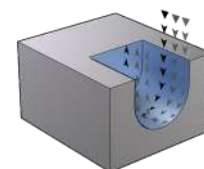
### Trochoidal:

Opening a slot by using side milling, making a partial circular movement in X- or Y-axis. (changing slot milling into side milling).



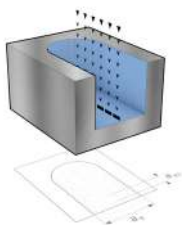
### Push-pull:

Machining a 3D form by making a down and up copying movement following the profile of the form.



### Plunge milling:

Opening up a deep slot by using drilling (Z) axis.



### Z-leveling:

Machining a surface by making a small drilling or ramping in Z axis then opening the pocket with X and Y movements.



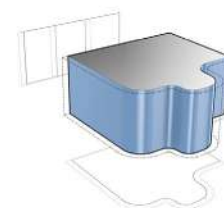
### Drilling:

Making a hole with movement in Z axis.



### Advanced roughing/ Optirough

Well defined tool paths with constant arc of contact for reliable roughing of simple & complex shapes. The large axial depths ( $a_p$ ) & small radial depths ( $a_e$ ) of cut combined with high feeds per tooth ( $f_z$ ) and cutting speeds ( $V_c$ ) results in high productivity.



## Definitions, machining strategies:

### General machining:

A machining strategy for general use.  $a_e - a_p$  ratio can vary depending on the operation.

Tool characteristics: Tools have relatively long cutting lengths and thin core diameters. There are no high requirements on the tolerances.

Machine requirements: There are no special machine requirements needed.

With basic CNC technology, difficult advanced machining methods are not possible.

Average results will be reached on metal removal rate  $Q$  (cm<sup>3</sup>/min).

The application area usually includes small batch sizes and a wide range of materials.

### High Performance Machining:

Is a machining strategy where very high metal removal rates can be achieved. Typical for this strategy is that  $a_e$  is 1 times DC and  $a_p$  is 1 to 1½ times DC depending the workpiece material.

With HPM (High Performance Machining) you achieve an extremely high metal removal rate by using a much higher chip load than in general machining.

Tool characteristics: Specially developed chip formers in the flute of the tool, tip protection with a small 45° face or corner radius, special smooth formed chip space and coating, with or without Weldon shank.

Machine requirements: High stability, high power requirements, CNC control, rigid clamping system.

The application areas are: Operations in a mass production environment where production time/lead time is of great importance or on single products where a high metal removal rate  $Q$  (cm<sup>3</sup>/min.) is required.

### High Feed Machining:

Is a machining strategy where high feed rates can be reached with large radial engagements ( $a_e$ ) in combination with a small  $a_p$ .

With HFM (High Feed Machining) you achieve high metal removal rates and/or surface finish by using a much higher table feed compared to general machining.

Tool characteristics: Specially developed front teeth, very short cutting length and coating.

Machine requirements: Good stability, CNC, possibility for high table feed ( $v_f$ ).

The big advantage of this technology is that it is very user friendly, easy, safe and quick to program in CAM. By using the so called Z-leveling strategy it is relatively easy to program complex forms without the necessity of having extensive experience in programming.

The application area is: From soft to hardened steel, titanium and stainless steel and it is very good as a pre operation before HSM is used.

It can also be applied in deep pocket machining.

### Micro machining:

Is a machining strategy where extremely small tool diameters are used.

Tool characteristics: Diameter range Ø 0,1 to 2,0 mm, small cutting lengths, a wide range of OD reductions, high accuracy, coating.

Machine requirements: High spindle accuracy, high RPM, CNC, thermal stability against spindle growth.

Application area is: Production of cavities like slots, pockets, holes or engravings in many types of material.

### High speed machining:

Is a machining strategy where a combination of a small radial depth of cut and high cutting speed and table feeds are used.

Depending on the method a high metal removal and a low  $R_a$  value can be reached.

Typical for this strategy are the low cutting forces, less heat build up in tool and workpiece, less burr formation and high dimensional accuracy on the workpiece.

With HSM (High Speed Machining) you achieve high metal removal rate and/or surface finish by using a much higher cutting speed compared to general machining.

Tool characteristics: Stable, (thick core diameter and a short cutting length) clear and well formed chip space for good chip evacuation, coating.

Machine requirements: Quick CNC control, high RPM, quick transmission to the axis.

The applications area is: Mould & Die industry on pre-finishing and finishing operations in hardened steel (48-62 HRC) in a short lead time.

This technique can also be applied in most other materials when using the right tool and advanced machining method.

### Advanced roughing / Optirough:

Well defined tool paths with constant arc of contact for reliable roughing of simple & complex shapes. The large axial depths ( $a_p$ ) & small radial depths ( $a_e$ ) of cut combined with high feeds per tooth ( $f_z$ ) and cutting speeds ( $V_c$ ) results in high productivity.

These CAM-based rough-machining, or dynamic milling, strategies are ones that centre on a cutting tool's arc of contact and its average chip load.

When reducing the arc of contact, the amount of heat generated during roughing operations is reduced. As the radial depth of cut decreases, so does a cutter's arc of contact. A smaller amount of contact results in less friction and, therefore, less heat between the tool's cutting edges and the workpiece it is machining. These lower machining temperatures, in turn, allow for increased cutting speeds shorter cycle times.

## Explanation of Advanced Roughing

### Advanced Roughing, what does it mean?

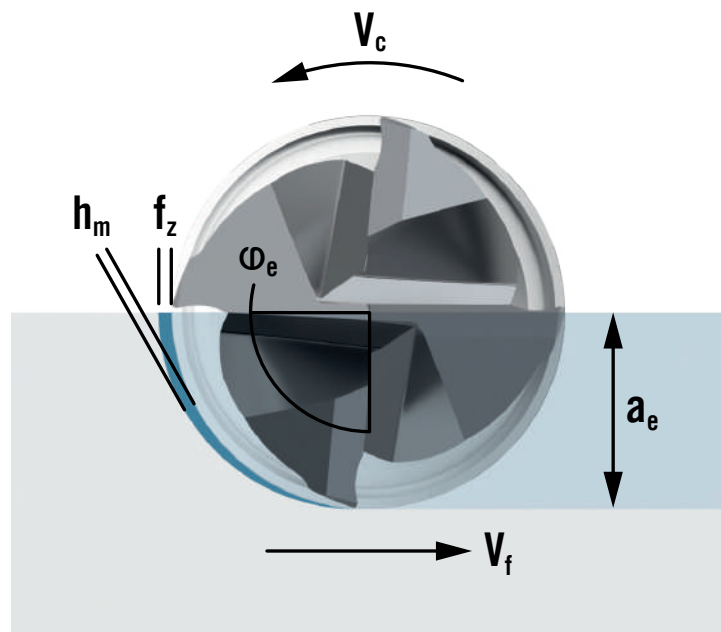
Today's CAM packages offer toolpath strategies specifically for inside/outside radii shapes where changing arcs of contact are common when using conventional toolpaths. These software packages automatically apply different feeds to control arc of contact and keep chip loads consistent.

These CAM-based rough-machining, or advanced roughing, focus on a cutting tool's arc of contact and its average chip load. When reducing the arc of contact, the amount of heat generated during roughing operations is reduced. As the radial depth of cut decreases, so does a cutter's arc of contact. A smaller amount of contact results in less friction and, therefore, less heat between the tool's cutting edges and the workpiece it is machining. These lower machining temperatures, in turn, allow for increased cutting speeds shorter cycle times. Also, the resulting cutting force is lower, allowing high APMXS, or cutting depth to be programmed.

In advanced roughing, to maintain arc of contact, CAM packages need to employ trochoidal machining-like techniques when entering a radius.

When using an optimized roughing toolpath and maintaining consistent arc of contact, the cutter's radius can match that of the inside radius being cut without risk of cutter overload. This capability allows our Advanced Roughing tools (JS554-3C, JS564, JS565, JS754, JS755, JSS720 and S4651) to remove more stock in the roughing pass, thus reducing the amount of stock the finish pass has to cut – all of which translates to faster machining cycle times and longer tool life. Also, while the remaining stock is constant the finishing tool can generate a better final surface quality and at the same time will have longer tool life.

### Impact of arc of contact on cutting speed and feed per tooth



## How our products can benefit you

### Achieve Revolutionary speeds in superalloys with

#### Seco Ceramic end mills

SiAlON ceramics, high-strength geometries and reinforced frontal teeth are some of the main features of these highly optimized tools and allow full utilization of high speed, high-performance machine tools. The tools can operate at cutting speeds of up to 1200M/min and can offer a significant productivity increase when compared to standard solid carbide solutions.

Since high temperatures are needed, also a significant amount of RPM is needed in order to achieve the high vc. The high temperatures are required in order to reach a level where the HRSA softens (850c +). With these tools, multiple strategies can be applied as long as a constant cut and constant contact with the workpiece is maximized.

The tool is designed for side milling, slot milling, high-feed milling and advanced roughing! All these are possible. To maintain the high cutting temperature in the cutting zone, coolant is compressed air. Because the tool operates at high speeds, also run out is of high importance.

You can find Seco ceramic tools on page 2, 399.



### Simplify aerospace hybrid materials holemaking with two-in-one-geometry

The JC899 has a patented two-in-one double geometry solution, designed for machining hybrid stacked material combinations such as CFRP-Ti and CFRP-Alu. Due to its left-hand helix, right-hand cut design, this tool is preventing delamination, fiber pull-out and chip marks from damaging the workpiece surface (this as chips will be pushed downwards out of the hole). As a result, the JC899 left-hand helix, right-hand cut STAX finisher gives a perfect surface finish and prevents chip pollution between the 2 stack layers.

This means post-machining, unstacking, cleaning and deburring, and re-stacking is not needed anymore which can boost process efficiency by as much as 200 to 300 percent and provide tool life three to six times longer than that of conventional reamers.

At the same time the drilling process is replaced by applying the JC898 high feed rougher. This tool helical interpolates and allows the JC899 to operate in continuous stock conditions, maximizing quality output while minimizing corellation in hole size and tolerance.

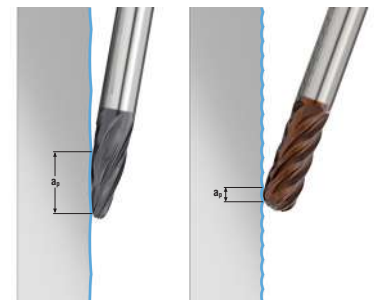
You can find Seco JC898/JC899 on pages 576 - 578.



### Take bigger stepovers for faster finishing productivity

For the fastest, most reliable finishing operations, new barrel-shaped tools use an innovative "taper" or "drop" geometry to enable large increases in stepover. This is possible through the use of advanced CAD/CAM systems or new plugins built for the uses of these tools. Using 5-axis machine movement, the tool's cutting profile can remain engaged with the surface of the part at the proper angle at all times.

In addition to our standard barrel-style shapes, Seco can also offer all styles of barrel geometry's as custom products, such as lens shapes, ensuring you always have access to the ideal tools for your part-production needs.



### Take the risk out of micro milling operations

Achieve accuracy, precision and high surface finish quality from the very start when machining small, micro-sized surfaces with our range of solid-carbide Seco end mills. SECO's new Mini ranges deliver longer tool life, stability and peace of mind for machining operations where it is typically impossible to actually see the workpiece and cutting tool as it works.

Precisely produced geometries, virtually zero runout, advanced coatings and true line-form radius tolerances give these mini ranges its incredibly long tool life and reliability. Key is to apply these tools in suitable conditions, in which the benefits can be maximized. Minimize run-out of the tool plus the tool holder is essential. Also the CAM program can be optimized with the Seco feed optimizer which calculates the ideal RPM and feed speed (vf) for every application. As a result, the tool and set-up help to eliminate any unforeseen problems during rough, pre-finish and final finish micro milling operations.

You can find an overview of Seco Mini tools on page 12.



### JS522 long flute finisher

The JS522 long-flute finishing tool is capable of meeting the aerospace industry's stringent criteria for perpendicularity, fine surface finish, high metal removal rates and more effective machining.

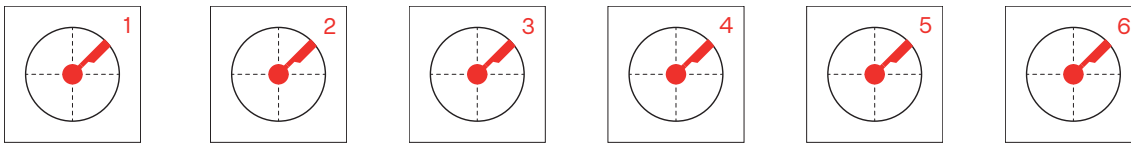
With a cutting length of 5"Dc, an increased core diameter and a slightly negative taper to compensate deflection, the JS522 is specially designed to machine high shoulders in single-pass finishing operations. This single pass saves time (up to 80%) but most important, also delivers instant quality. This tool is often used in mass production areas.

Once in place and optimized, this has proven to be the number one cost saver in multiple applications!

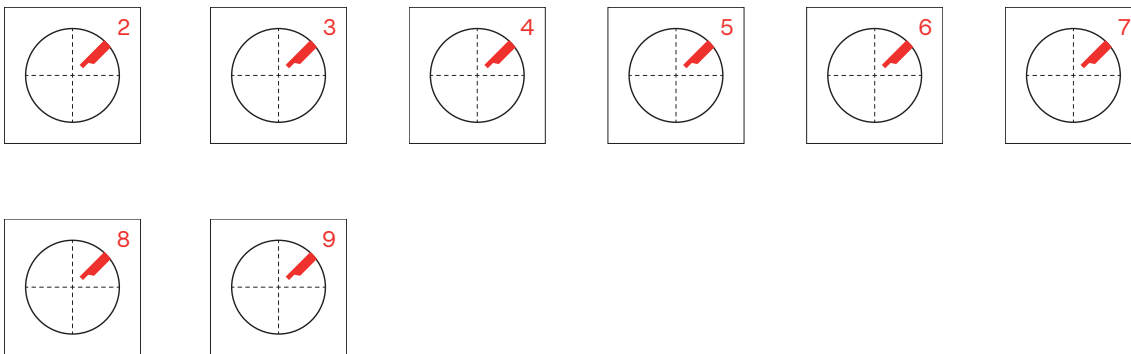
You can find Seco JS522 on page 178.



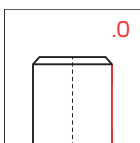
Center cut PCEDC



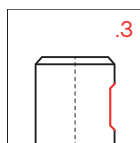
No center cut PCEDC



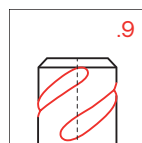
Cylindrical shank



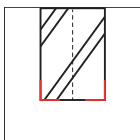
Weldon shank



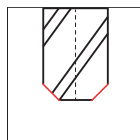
Safelock shank



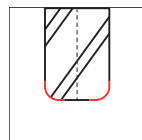
Sharp



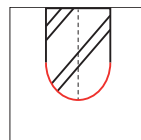
Chamfer



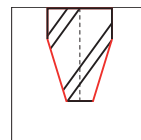
Corner radius



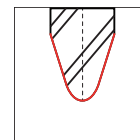
Ball nose



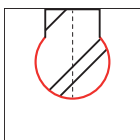
Tapered sharp



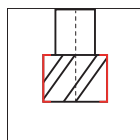
Tapered ball nose



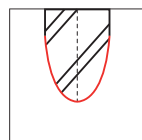
Cutter 250°



T-shape



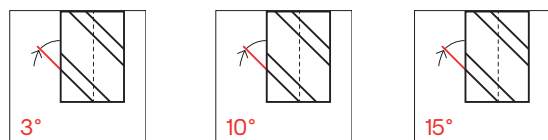
Barrel



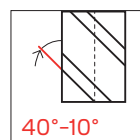
### Helix angle



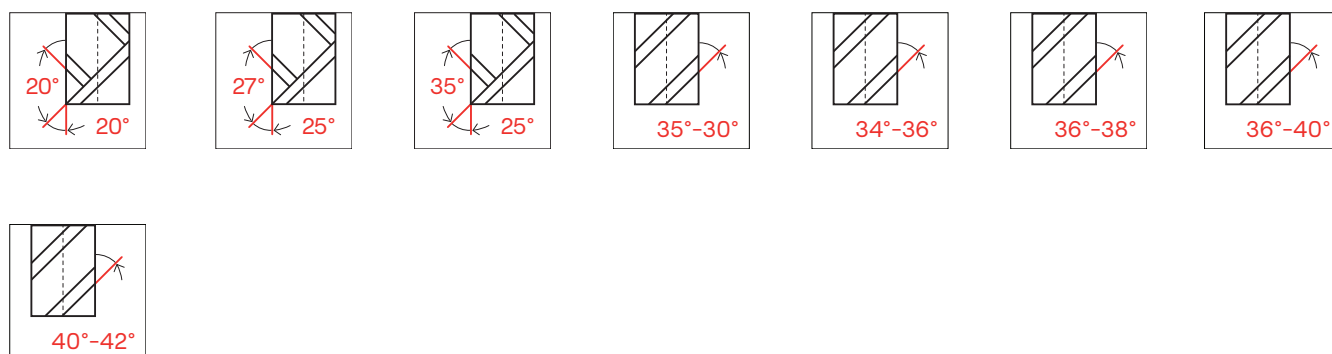
### Helix angle Left



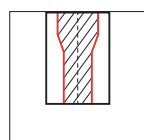
### Double left hand helix



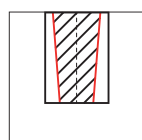
### Double helix



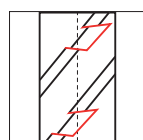
### Double core



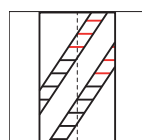
### Tapered Core



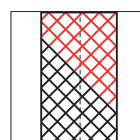
### Chip splitters



### Roughing profile



### Router profile

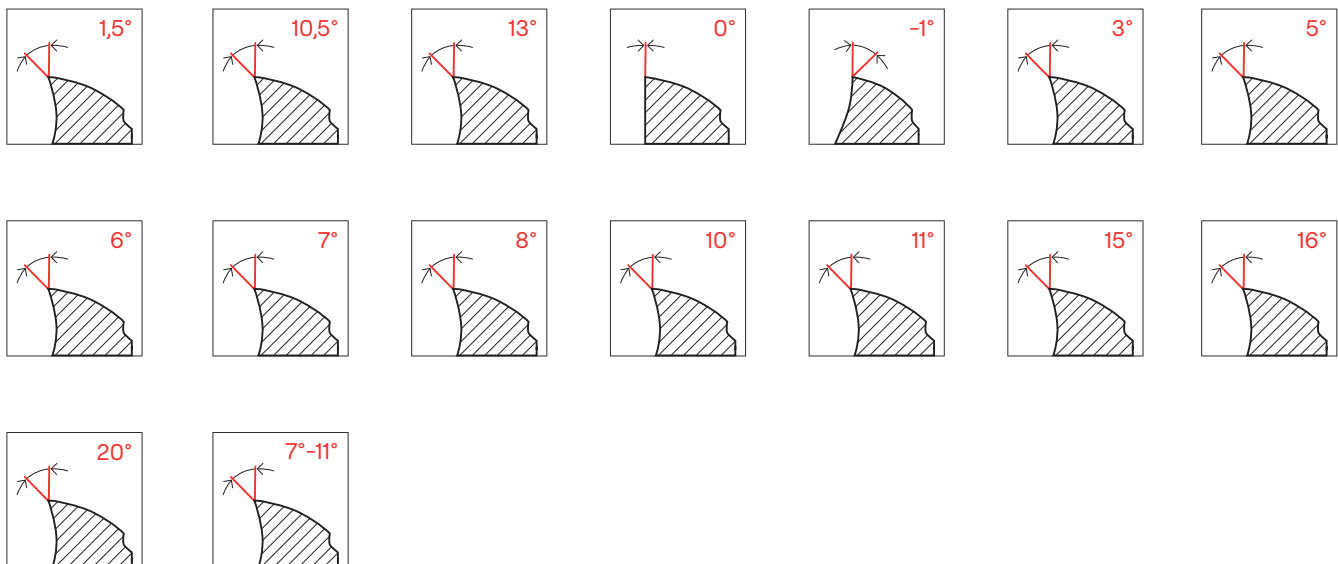




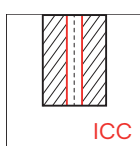
Cutting rake Angular relief



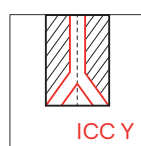
Cutting rake Radial relief



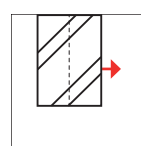
ICC straight



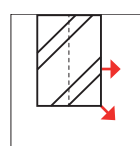
ICC and Y



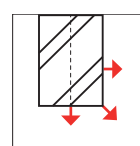
Radial



Radial/Ramping



Radial/Ramping/



## Key symbols

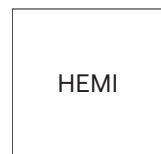
DIAMOND



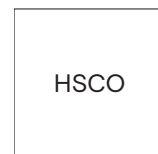
DURA



HEMI



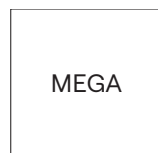
HSCO



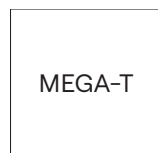
HXT



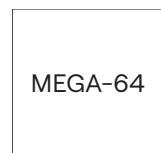
MEGA



MEGA-T



MEGA-64



MEGA-64-T



NXT



STAX



SIRA



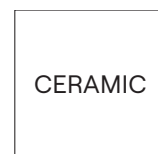
TAN



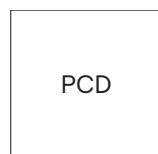
AXT



Ceramic



PCD



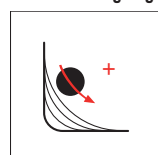
M9



Regrind possible



Advanced roughing



## Attributes Solid Milling and X-Heads

| Attribute | Explanation                                 |
|-----------|---------------------------------------------|
| AP1       | depth of cut split                          |
| APMXS     | depth of cut maximum in feed direction side |
| BHTA      | body half taper angle                       |
| CA        | collision angle                             |
| CHW       | corner chamfer width                        |
| CSP       | coolant supply property                     |
| CZCMS     | connection size code machine side           |
| CZCWS     | connection size code workpiece side         |
| DC        | cutting diameter                            |
| DCSFMS    | contact surface diameter machine side       |
| DCSFWS    | contact surface diameter workpiece side     |
| DCX       | cutting diameter maximum                    |
| DMM       | shank diameter                              |
| DN        | neck diameter                               |
| FCEDC     | face cutting edge count                     |
| CSP       | coolant supply property                     |
| L         | cutting edge length                         |
| L2        | cutting edge length 2                       |
| LF        | functional length                           |
| LN        | neck length                                 |
| LN2       | neck length 2                               |
| LSCN      | clamping length minimum                     |
| NA        | neck angle                                  |
| OAL       | overall length                              |
| PCEDC     | peripheral cutting edge count               |
| PRFA/2    | profile angle divided by two                |
| PRFRAD1   | profile radius 1                            |
| PRFRAD2   | profile radius 2                            |
| PRFRAD3   | profile radius 3                            |
| PSIR      | tool lead angle                             |
| RE        | corner radius                               |
| RE2       | corner radius 2                             |
| RP        | programming radius                          |
| SA        | sphere angle                                |
| SIG       | point angle                                 |
| SW        | wrench size                                 |
| TQ        | torque                                      |
| TQN       | torque minimum                              |
| TQX       | torque maximum                              |
| UTCN      | uncut thickness                             |

## Attributes Minimaster

| Attribute | Explanation                                    |
|-----------|------------------------------------------------|
| APMXE     | depth of cut maximum in feed direction end     |
| APMXS     | depth of cut maximum in feed direction side    |
| AZ        | plunge depth maximum                           |
| BEC       | back end chamfer angle                         |
| BHTA      | body half taper angle                          |
| CCER      | curved cutting edge radius                     |
| Cmax      | helical interpolation hole diameter maximum    |
| Cmin      | helical interpolation hole diameter minimum    |
| DC        | cutting diameter                               |
| DCSFMS    | contact surface diameter machine side          |
| DCSFWS    | contact surface diameter work piece side       |
| DCX       | cutting diameter maximum                       |
| DMM       | shank diameter                                 |
| DN        | neck diameter                                  |
| FCEDC     | face cutting edge count                        |
| FHA       | flute helix angle                              |
| KAPRS     | tool cutting edge angle in feed direction side |
| LE        | cutting edge effective length                  |
| LF        | functional length                              |
| LPR       | protruding length                              |
| OAL       | overall length                                 |
| RA        | relief angle                                   |
| RE        | corner radius                                  |
| RMPX      | ramping angle maximum                          |
| RP        | programming radius                             |
| RPMX      | rotational speed maximum                       |
| SA        | sphere angle                                   |
| SIG       | point angle                                    |
| UTCN      | uncut thickness                                |
| ZEFP      | peripheral effective cutting edge count        |



## UNIVERSAL

Seco offers a complete range of high performance solid carbide square shoulder end mills, ballnose cutters and finish end mills for high productivity and extended tool life. This range covers universal products and optimized end mills for specific workpiece materials.

Universal products offer full machining flexibility at an excellent price/performance ratio.

- C5121, C5131, C5141, C5231, C5241 and ST5551 for sharp corner type.
- JSE512, JSE513, JSE514, JS553, JS554, ST5551, JS564, JS565 and JS520 with 45° chamfer type.
- C5121, C5141, JS522, JS553, JS554, ST5551, JH910, JH930, JHF980, J36, V31, JME542, JME562 and JME564 for radius type.
- C5021, C5041, JS506, JS509, HK, HKM and J29 for conical type.
- C5321, C5341, JSB512, JS532, JS533, JS534, JHB970, JMB542, JMB562 and JMB563 for ball-nose type.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Universal

## Steel and cast iron

Stainless steel  
and S-materials

## Non ferrous

Hard

## Plastic and cfrp

## Graphite

## X-Heads

## Minimaster

|                          |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|--------------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                          |             |    |    |    |    |    |    |    |    |
|                          |             |    |    |    |    |    |    |    |    |
| Name                     |             | C5121                                                                               | C5131                                                                               | C5141                                                                               | C5231                                                                               | C5241                                                                               | JSE512                                                                                | JSE513                                                                                | JSE514                                                                                |
| Page(s)                  |             | 38                                                                                  | 50                                                                                  | 56                                                                                  | 73                                                                                  | 73                                                                                  | 75                                                                                    | 79                                                                                    | 85                                                                                    |
| Family name              |             | C-Series                                                                            | C-Series                                                                            | C-Series                                                                            | C-Series                                                                            | C-Series                                                                            | SOLID <sup>2</sup>                                                                    | SOLID <sup>2</sup>                                                                    | SOLID <sup>2</sup>                                                                    |
| Type of mill             |             |    |    |    |    |   |    |    |    |
| Shank                    | Cylindrical |    |    |    |    |    |    |    |    |
|                          | Weldon      |    |                                                                                     |    |                                                                                     |                                                                                     |    |    |    |
| Number of Flutes         |             | 2                                                                                   | 3                                                                                   | 4                                                                                   | 3                                                                                   | 4                                                                                   | 2                                                                                     | 2                                                                                     | 4                                                                                     |
| CSP                      |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Diameter range           | Metric      | 1-12                                                                                | 1-12                                                                                | 1-20                                                                                |                                                                                     |                                                                                     | 2-12                                                                                  | 2-20                                                                                  | 2-25                                                                                  |
|                          | Inch        | 1/32-1                                                                              | 1/32-1                                                                              | 1/64-1 1/4                                                                          | 1/-5/8                                                                              | 3/4                                                                                 |                                                                                       |                                                                                       | 1/8-3/4                                                                               |
| Length availability      |             | 1,2,3,4,5,6,7,8                                                                     | 1,2,3,4                                                                             | 1,2,3,4,5,6,7,8,9                                                                   | 2,3                                                                                 | 3                                                                                   | 2                                                                                     | 2,3                                                                                   | 2,3                                                                                   |
| Operation                |             |  |  |  |                                                                                     |                                                                                     |  |  |  |
|                          |             |  |  |  |  |  |  |  |  |
|                          |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| SMG                      |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| P1-8                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| P11-12                   |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| M1-3                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| M4-5                     |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| K1-7                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| S1-3                     |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| S11-13                   |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| H3 H5 H8 H11 H12 H21 H31 |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| N1                       |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| N2-3                     |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| N11                      |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| TS1                      |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| TP1                      |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| GR                       |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     |

■ Stock standard □ Weldon available, delivery time is 3 days.

● Preferred choice ○ Alternative choice

\*JS554 3C also available. Can be applied in advanced roughing.

Tool Selection Universal

|                          |             |    |    |    |    |    |    |    |    |    |
|--------------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Name                     |             | JS553                                                                               | JS554                                                                               | ST5551                                                                              | JS564                                                                               | JS565                                                                               | JS520                                                                                 | JS522                                                                                 | C5321                                                                                 | C5341                                                                                 |
| Page(s)                  |             | 95                                                                                  | 115                                                                                 | 140                                                                                 | 166                                                                                 | 170                                                                                 | 174                                                                                   | 178                                                                                   | 181                                                                                   | 189                                                                                   |
| Family name              |             | SOLID <sup>2</sup>                                                                  | SOLID <sup>2</sup>                                                                  | Stabilizer                                                                          | SOLID <sup>2</sup>                                                                  | SOLID <sup>2</sup>                                                                  | SOLID <sup>2</sup>                                                                    | SOLID <sup>2</sup>                                                                    | C-Series                                                                              | C-Series                                                                              |
| Type of mill             |             |    |    |    |    |    |    |    |    |    |
| Shank                    | Cylindrical | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                     | ■                                                                                     | ■                                                                                     | ■                                                                                     |
|                          | Weldon      | ■                                                                                   | ■                                                                                   | □                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Number of Flutes         |             | 3                                                                                   | 4                                                                                   | 5                                                                                   | 4                                                                                   | 5                                                                                   | 5,6,8                                                                                 | 2                                                                                     | 2                                                                                     | 4                                                                                     |
| CSP                      |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Diameter range           | Metric      | 2-25                                                                                | 3-25                                                                                | 6-25                                                                                | 3-20                                                                                | 4-20                                                                                | 4-25                                                                                  | 6-32                                                                                  | 1-12                                                                                  | 1-20                                                                                  |
|                          | Inch        | 1/8 - 1/2                                                                           | 1/4-1                                                                               | 1/4-1                                                                               |                                                                                     |                                                                                     |                                                                                       |                                                                                       | 1/64-1                                                                                | 1/64-1                                                                                |
| Length availability      |             | 1,2,3                                                                               | 1,2,3                                                                               | 1,2,3,4,5,6,8                                                                       | 2,3,4                                                                               | 2,3,4                                                                               | 2,3                                                                                   | 4                                                                                     | 1,2,3,4,5,6,7                                                                         | 1,2,3,4,5,6,7,8                                                                       |
| Operation                |             |  |  |  |                                                                                     |                                                                                     |  |  |                                                                                       |                                                                                       |
|                          |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |  |  |
|                          |             |                                                                                     |  |  |  |  |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| SMG                      |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| P1-8                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| P11-12                   |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ●                                                                                     | ○                                                                                     | ○                                                                                     |
| M1-3                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ○                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| M4-5                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ○                                                                                     | ●                                                                                     | ○                                                                                     | ○                                                                                     |
| K1-7                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| S1-3                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| S11-13                   |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ○                                                                                     | ○                                                                                     |
| H3 H5 H8 H11 H12 H21 H31 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ○                                                                                     |                                                                                       | ○                                                                                     | ○                                                                                     |
| N1                       |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ○                                                                                     | ○                                                                                     |
| N2-3                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ○                                                                                     | ○                                                                                     |
| N11                      |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ○                                                                                     | ○                                                                                     |
| TS1                      |             | ●                                                                                   | ●                                                                                   | ●                                                                                   |                                                                                     |                                                                                     | ●                                                                                     | ●                                                                                     | ○                                                                                     | ○                                                                                     |
| TP1                      |             | ●                                                                                   | ●                                                                                   | ●                                                                                   |                                                                                     |                                                                                     | ●                                                                                     | ●                                                                                     | ○                                                                                     | ○                                                                                     |
| GR                       |             | ○                                                                                   | ○                                                                                   | ○                                                                                   |                                                                                     |                                                                                     | ○                                                                                     | ○                                                                                     | ○                                                                                     | ○                                                                                     |

■ Stock standard □ Weldon available, delivery time is 3 days.

● Preferred choice ○ Alternative choice

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

### Tool Selection Universal

|                          |             |    |    |    |    |    |    |    |    |
|--------------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Name                     |             | JSB512                                                                              | JS532                                                                               | JS533                                                                               | JS534                                                                               | C5021                                                                                | C5041                                                                                 | JS506                                                                                 | JS509                                                                                 |
| Page(s)                  |             | 196                                                                                 | 198                                                                                 | 202                                                                                 | 206                                                                                 | 210                                                                                  | 212                                                                                   | 214                                                                                   | 218                                                                                   |
| Family name              |             | SOLID <sup>2</sup>                                                                  | SOLID <sup>2</sup>                                                                  | SOLID <sup>2</sup>                                                                  | SOLID <sup>2</sup>                                                                  | C-Series                                                                             | C-Series                                                                              | SOLID <sup>2</sup>                                                                    | SOLID <sup>2</sup>                                                                    |
| Type of mill             |             |    |    |    |    |    |    |    |    |
| Shank                    | Cylindrical | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                    | ■                                                                                     | ■                                                                                     | ■                                                                                     |
|                          | Weldon      |                                                                                     | □                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                      |                                                                                       | ■                                                                                     | ■                                                                                     |
| Number of Flutes         |             | 2                                                                                   | 2                                                                                   | 3                                                                                   | 4                                                                                   | 2                                                                                    | 4                                                                                     | 3-4                                                                                   | 3-4                                                                                   |
| CSP                      |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |
| Diameter range           | Metric      | 2-12                                                                                | 1-20                                                                                | 1-20                                                                                | 2-20                                                                                |                                                                                      |                                                                                       | 3-12                                                                                  | 3-12                                                                                  |
|                          | Inch        |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1/4-1/2                                                                              | 1/4-3/4                                                                               |                                                                                       |                                                                                       |
| Length availability      |             | 2                                                                                   | 1,2,3                                                                               | 1,2                                                                                 | 1,2,3                                                                               | 1                                                                                    | 1                                                                                     | 2                                                                                     | 2                                                                                     |
| Operation                |             |  |  |  |  |  |  |  |  |
|                          |             |  |  |  |  |                                                                                      |                                                                                       |                                                                                       |                                                                                       |
| SMG                      |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |
| P1-8                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| P11-12                   |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                    | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| M1-3                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| M4-5                     |             | ○                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ○                                                                                    | ○                                                                                     | ●                                                                                     | ●                                                                                     |
| K1-7                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| S1-3                     |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                    | ○                                                                                     | ○                                                                                     | ○                                                                                     |
| S11-13                   |             | ○                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ○                                                                                    | ○                                                                                     | ●                                                                                     | ●                                                                                     |
| H3 H5 H8 H11 H12 H21 H31 |             | ○                                                                                   |                                                                                     |                                                                                     |                                                                                     | ○                                                                                    | ○                                                                                     | ●                                                                                     | ●                                                                                     |
| N1                       |             | ○                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ○                                                                                    | ○                                                                                     | ●                                                                                     | ●                                                                                     |
| N2-3                     |             | ○                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ○                                                                                    | ○                                                                                     | ●                                                                                     | ●                                                                                     |
| N11                      |             | ○                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ○                                                                                    | ○                                                                                     | ●                                                                                     | ●                                                                                     |
| TS1                      |             | ○                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ○                                                                                    | ○                                                                                     | ●                                                                                     | ●                                                                                     |
| TP1                      |             | ○                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ○                                                                                    | ○                                                                                     | ●                                                                                     | ●                                                                                     |
| GR                       |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                    | ○                                                                                     | ○                                                                                     | ○                                                                                     |

■ Stock standard □ Weldon available, delivery time is 3 days.

● Preferred choice ○ Alternative choice



### Tool Selection Universal

|                          |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|--------------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                          |             |    |    |    |    |
| Name                     |             | JH910                                                                               | JH930                                                                               | JHB970                                                                                | JHF980                                                                                |
| Page(s)                  |             | 222                                                                                 | 226, 511                                                                            | 228, 311                                                                              | 230                                                                                   |
| Family name              |             | HSM/TORNADO                                                                         | HSM/TORNADO                                                                         | HSM/TORNADO                                                                           | HFM                                                                                   |
| Type of mill             |             |    |    |    |    |
| Shank                    | Cylindrical | ■                                                                                   | ■                                                                                   | ■                                                                                     | ■                                                                                     |
|                          | Weldon      |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Number of Flutes         |             | 3                                                                                   | 5-6, 8                                                                              | 2                                                                                     | 2,3,4,5                                                                               |
| CSP                      |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Diameter range           | Metric      | 2-20                                                                                | 6-20                                                                                | 2-16                                                                                  | 1-12                                                                                  |
|                          | Inch        |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Length availability      |             | 2,3,4                                                                               | 2                                                                                   | 1,2,3                                                                                 | 1,2,3,4                                                                               |
| Operation                |             |  |                                                                                     |                                                                                       |  |
|                          |             |  |  |                                                                                       |  |
|                          |             |                                                                                     |                                                                                     |  |                                                                                       |
| SMG                      |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| P1-8                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |
| P11-12                   |             | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     |
| M1-3                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |
| M4-5                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |
| K1-7                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |
| S1-3                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |
| S11-13                   |             | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |
| H3 H5 H8 H11 H12 H21 H31 |             |                                                                                     | ●                                                                                   |                                                                                       | ○                                                                                     |
| N1                       |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| N2-3                     |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| N11                      |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| TS1                      |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| TP1                      |             | ●                                                                                   |                                                                                     |                                                                                       |                                                                                       |
| GR                       |             | ●                                                                                   |                                                                                     |                                                                                       |                                                                                       |

■ Stock standard □ Weldon available, delivery time is 3 days.

● Preferred choice ○ Alternative choice

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Tool Selection Universal

| Universal                       |             |    |    |    |    |
|---------------------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Steel and cast iron             |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Stainless steel and S-materials |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Non ferrous                     |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Hard                            |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Plastic and cfrp                |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Graphite                        |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| X-Heads                         |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Minimaster                      |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|                                 |             |    |    |    |    |
| Name                            |             | J29                                                                                 | J36                                                                                 | HK/HKM                                                                                | V31                                                                                   |
| Page(s)                         |             | 234                                                                                 | 237                                                                                 | 240                                                                                   | 251                                                                                   |
| Family name                     |             | VHM                                                                                 | VHM                                                                                 | VHM                                                                                   | VHM                                                                                   |
| Type of mill                    |             |    |    |    |    |
| Shank                           | Cylindrical |    |    |    |    |
|                                 | Weldon      |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Number of Flutes                |             | 1                                                                                   | 3                                                                                   | 2,3,4                                                                                 | 4                                                                                     |
| CSP                             |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Diameter range                  | Metric      | 0,2-6                                                                               | 2-20                                                                                | 1-10                                                                                  | 6-28                                                                                  |
|                                 | Inch        |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Length availability             |             | 2                                                                                   | 2                                                                                   | 2                                                                                     | 2                                                                                     |
| Operation                       |             |  |                                                                                     |                                                                                       |                                                                                       |
|                                 |             |                                                                                     |  |  |                                                                                       |
|                                 |             |                                                                                     |                                                                                     |                                                                                       |  |
| SMG                             |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| P1-8                            |             | ●                                                                                   | ○                                                                                   | ●                                                                                     | ●                                                                                     |
| P11-12                          |             | ●                                                                                   | ●                                                                                   |                                                                                       | ○                                                                                     |
| M1-3                            |             | ●                                                                                   | ○                                                                                   | ●                                                                                     | ●                                                                                     |
| M4-5                            |             | ●                                                                                   | ○                                                                                   | ●                                                                                     | ○                                                                                     |
| K1-7                            |             | ●                                                                                   | ○                                                                                   | ●                                                                                     | ●                                                                                     |
| S1-3                            |             | ●                                                                                   | ○                                                                                   | ●                                                                                     | ●                                                                                     |
| S11-13                          |             | ●                                                                                   | ○                                                                                   | ●                                                                                     | ●                                                                                     |
| H3 H5 H8 H11 H12 H21 H31        |             | ○                                                                                   |                                                                                     | ●                                                                                     | ●                                                                                     |
| N1                              |             | ●                                                                                   | ○                                                                                   | ●                                                                                     | ●                                                                                     |
| N2-3                            |             | ●                                                                                   | ●                                                                                   | ○                                                                                     | ●                                                                                     |
| N11                             |             | ●                                                                                   | ●                                                                                   |                                                                                       | ●                                                                                     |
| TS1                             |             | ●                                                                                   | ○                                                                                   | ●                                                                                     | ●                                                                                     |
| TP1                             |             | ●                                                                                   | ○                                                                                   | ●                                                                                     | ●                                                                                     |
| GR                              |             | ●                                                                                   |                                                                                     |                                                                                       | ●                                                                                     |

■ Stock standard □ Weldon available, delivery time is 3 days.

● Preferred choice ○ Alternative choice

## Tool Selection Universal

|                          |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
|--------------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                          |             |    |    |    |    |    |    |
| Name                     |             | JME542                                                                              | JME562                                                                              | JME564                                                                              | JMB542                                                                               | JMB562                                                                                | JMB563                                                                                |
| Page(s)                  |             | 254                                                                                 | 257                                                                                 | 261                                                                                 | 264                                                                                  | 267                                                                                   | 271                                                                                   |
| Family name              |             | MINI                                                                                | MINI                                                                                | MINI                                                                                | MINI                                                                                 | MINI                                                                                  | MINI                                                                                  |
| Type of mill             |             |    |    |    |    |    |    |
| Shank                    | Cylindrical | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                    | ■                                                                                     | ■                                                                                     |
|                          | Weldon      |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| Number of Flutes         |             | 2                                                                                   | 2                                                                                   | 4                                                                                   | 2                                                                                    | 2                                                                                     | 3                                                                                     |
| CSP                      |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| Diameter range           | Metric      | 2-20                                                                                | 0,5-3,0                                                                             | 0,5-3,0                                                                             | 0,2-3,0                                                                              | 0,5-3,0                                                                               | 1,0-3,0                                                                               |
|                          | Inch        |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| Length availability      |             | 1,3,4,5,6                                                                           | 2,4,5,6,7                                                                           | 2,4                                                                                 | 1,3,4,5,6                                                                            | 1,2,3,4,5,6                                                                           | 2,4                                                                                   |
| Operation                |             |  |  |  |  |  |                                                                                       |
|                          |             |  |  |  |                                                                                      |                                                                                       |                                                                                       |
|                          |             |                                                                                     |                                                                                     |                                                                                     |  |  |  |
| SMG                      |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| P1-8                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| P11-12                   |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| M1-3                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| M4-5                     |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| K1-7                     |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| S1-3                     |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| S11-13                   |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| H3 H5 H8 H11 H12 H21 H31 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| N1                       |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                    | ○                                                                                     | ○                                                                                     |
| N2-3                     |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                    | ○                                                                                     | ○                                                                                     |
| N11                      |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                    | ○                                                                                     | ○                                                                                     |
| TS1                      |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| TP1                      |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| GR                       |             | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                    | ○                                                                                     | ○                                                                                     |

■ Stock standard □ Weldon available, delivery time is 3 days.

● Preferred choice ○ Alternative choice

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

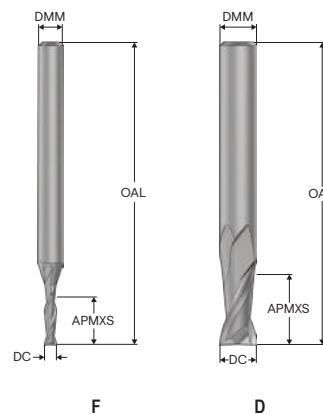
Graphite

X-Heads

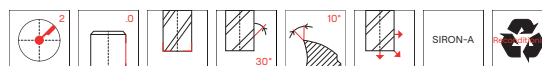
Minimaster

## C5121

General purpose – Universal – Square – 2 Flutes – Cylindrical – Sharp



—Tolerances:  
—DMM=h5  
—DC= h10  
—Regrind possible if DC is  $\geq \phi 10$

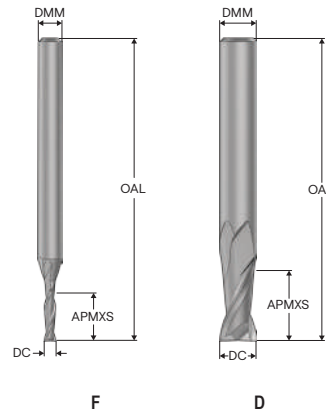


| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|-------|-------------|----------------|
| C5121-060D1S.0Z2 | SIRA  | 10269100    | 1            | D          | mm   | mm   | mm    | mm    |       |             |                |
| C5121-020F2S.0Z2 | SIRA  | 10269091    | 2            | F          | 6,0  | 6,0  | 9,0   | 57,0  | 2     | Cylindrical | ■              |
| C5121-030D2S.0Z2 | SIRA  | 10269093    | 2            | D          | 2,0  | 3,0  | 4,0   | 38,0  | 2     | Cylindrical | ■              |
| C5121-040D2S.0Z2 | SIRA  | 10269096    | 2            | D          | 3,0  | 3,0  | 6,0   | 38,0  | 2     | Cylindrical | ■              |
| C5121-050F2S.0Z2 | SIRA  | 10269098    | 2            | F          | 4,0  | 4,0  | 8,0   | 50,0  | 2     | Cylindrical | ■              |
| C5121-060D2S.0Z2 | SIRA  | 10269101    | 2            | D          | 5,0  | 6,0  | 10,0  | 57,0  | 2     | Cylindrical | ■              |
| C5121-080D2S.0Z2 | SIRA  | 10269103    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | 2     | Cylindrical | ■              |
| C5121-090F2S.0Z2 | SIRA  | 10269105    | 2            | F          | 8,0  | 8,0  | 16,0  | 63,0  | 2     | Cylindrical | ■              |
| C5121-100D2S.0Z2 | SIRA  | 10269106    | 2            | D          | 9,0  | 10,0 | 22,0  | 72,0  | 2     | Cylindrical | ■              |
| C5121-120D2S.0Z2 | SIRA  | 10269108    | 2            | D          | 10,0 | 10,0 | 22,0  | 72,0  | 2     | Cylindrical | ■              |
| C5121-015F3S.0Z2 | SIRA  | 10269090    | 3            | F          | 12,0 | 12,0 | 25,0  | 83,0  | 2     | Cylindrical | ■              |
| C5121-020F3S.0Z2 | SIRA  | 10269092    | 3            | F          | 1,5  | 3,0  | 4,5   | 38,0  | 2     | Cylindrical | ■              |
| C5121-035F3S.0Z2 | SIRA  | 10269095    | 3            | F          | 2,0  | 3,0  | 6,3   | 38,0  | 2     | Cylindrical | ■              |
| C5121-050F3S.0Z2 | SIRA  | 10269099    | 3            | F          | 3,5  | 4,0  | 12,0  | 50,0  | 2     | Cylindrical | ■              |
| C5121-060D3S.0Z2 | SIRA  | 10269102    | 3            | D          | 5,0  | 6,0  | 16,0  | 57,0  | 2     | Cylindrical | ■              |
| C5121-080D3S.0Z2 | SIRA  | 10269104    | 3            | D          | 6,0  | 6,0  | 19,0  | 63,0  | 2     | Cylindrical | ■              |
| C5121-010F4S.0Z2 | SIRA  | 10269089    | 4            | F          | 8,0  | 8,0  | 20,0  | 63,0  | 2     | Cylindrical | ■              |
| C5121-030D4S.0Z2 | SIRA  | 10269094    | 4            | D          | 1,0  | 3,0  | 4,0   | 38,0  | 2     | Cylindrical | ■              |
| C5121-040D4S.0Z2 | SIRA  | 10269097    | 4            | D          | 3,0  | 3,0  | 12,0  | 38,0  | 2     | Cylindrical | ■              |
| C5121-100D4S.0Z2 | SIRA  | 10269107    | 4            | D          | 4,0  | 4,0  | 14,0  | 50,0  | 2     | Cylindrical | ■              |
| C5121-120D4S.0Z2 | SIRA  | 10269109    | 4            | D          | 10,0 | 10,0 | 35,0  | 89,0  | 2     | Cylindrical | ■              |
| C5121-120D4S.0Z2 | SIRA  | 10269109    | 4            | D          | 12,0 | 12,0 | 50,0  | 100,0 | 2     | Cylindrical | ■              |

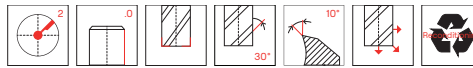
■ Stocked standard.

## C5121

General purpose – Universal – Square – 2 Flutes – Cylindrical – Sharp – Inch



- Tolerances:
- DMM =  $-.0001"/-0.0004"$
- DC  $\leq \varnothing 7/64" = \pm 0.0005"$
- DC  $> \varnothing 7/64" = +0.000"/-0.002"$
- Regrind possible if DC is  $\geq \varnothing .375$



| Designation        | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|--------------------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |             |              |            | inch  | inch  | inch  | inch  |       |             |                |
| C5121-.375D1S.0Z2  | 10268850    | 1            | D          | 0.375 | 0.375 | 0.625 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.500D1S.0Z2  | 10268858    | 1            | D          | 0.500 | 0.500 | 0.625 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.047F2S.0Z2  | 10268818    | 2            | F          | 0.047 | 0.125 | 0.109 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.063F2S.0Z2  | 10268820    | 2            | F          | 0.063 | 0.125 | 0.125 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.094F2S.0Z2  | 10268824    | 2            | F          | 0.094 | 0.125 | 0.188 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.125D2S.0Z2  | 10268828    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.156F2S.0Z2  | 10268833    | 2            | F          | 0.156 | 0.188 | 0.313 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.188D2S.0Z2  | 10268835    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.250D2S.0Z2  | 10268841    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.313D2S.0Z2  | 10268846    | 2            | D          | 0.313 | 0.313 | 0.500 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.375D2S.0Z2  | 10268851    | 2            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.438D2S.0Z2  | 10268856    | 2            | D          | 0.438 | 0.438 | 1.000 | 2.750 | 2     | Cylindrical | ■              |
| C5121-.500D2S.0Z2  | 10268859    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 2     | Cylindrical | ■              |
| C5121-.563D2S.0Z2  | 10268864    | 2            | D          | 0.563 | 0.563 | 1.125 | 3.500 | 2     | Cylindrical | ■              |
| C5121-.625D2S.0Z2  | 10268865    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 2     | Cylindrical | ■              |
| C5121-.750D2S.0Z2  | 10268869    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 2     | Cylindrical | ■              |
| C5121-.875D2S.0Z2  | 10268872    | 2            | D          | 0.875 | 0.875 | 1.500 | 4.000 | 2     | Cylindrical | ■              |
| C5121-1.000D2S.0Z2 | 10268873    | 2            | D          | 1.000 | 1.000 | 1.500 | 4.000 | 2     | Cylindrical | ■              |
| C5121-.031F3S.0Z2  | 10268690    | 3            | F          | 0.031 | 0.125 | 0.078 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.047F3S.0Z2  | 10268819    | 3            | F          | 0.047 | 0.125 | 0.125 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.063F3S.0Z2  | 10268821    | 3            | F          | 0.063 | 0.125 | 0.188 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.078F3S.0Z2  | 10268823    | 3            | F          | 0.078 | 0.125 | 0.250 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.094F3S.0Z2  | 10268825    | 3            | F          | 0.094 | 0.125 | 0.281 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.109F3S.0Z2  | 10268827    | 3            | F          | 0.109 | 0.125 | 0.375 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.156F3S.0Z2  | 10268834    | 3            | F          | 0.156 | 0.188 | 0.500 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.188D3S.0Z2  | 10268836    | 3            | D          | 0.188 | 0.188 | 0.625 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.203F3S.0Z2  | 10268839    | 3            | F          | 0.203 | 0.250 | 0.625 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.219F3S.0Z2  | 10268840    | 3            | F          | 0.219 | 0.250 | 0.625 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.250D3S.0Z2  | 10268842    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.281F3S.0Z2  | 10268845    | 3            | F          | 0.281 | 0.313 | 0.750 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.313D3S.0Z2  | 10268847    | 3            | D          | 0.313 | 0.313 | 0.813 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.375D3S.0Z2  | 10268852    | 3            | D          | 0.375 | 0.375 | 1.000 | 3.000 | 2     | Cylindrical | ■              |
| C5121-.500D3S.0Z2  | 10268860    | 3            | D          | 0.500 | 0.500 | 1.000 | 4.000 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

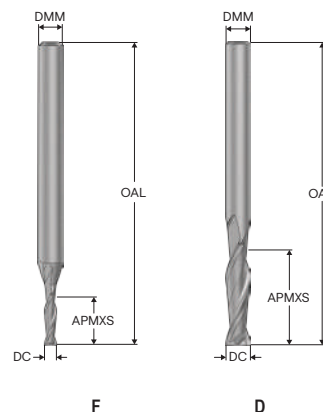
Graphite

X-Heads

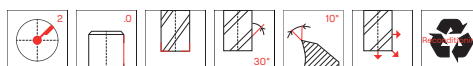
Minimaster

## C5121

General purpose – Universal – Square – 2 Flutes – Cylindrical – Sharp – Inch



—Tolerances:  
—DMM =  $\pm 0.001$ "/ $\pm 0.004$ "  
—DC  $\leq \varnothing 7/64$ " =  $\pm 0.005$ "  
—DC  $> \varnothing 7/64$ " =  $\pm 0.007$ "/ $\pm 0.002$ "  
—Regrind possible if DC is  $\geq \varnothing 0.375$

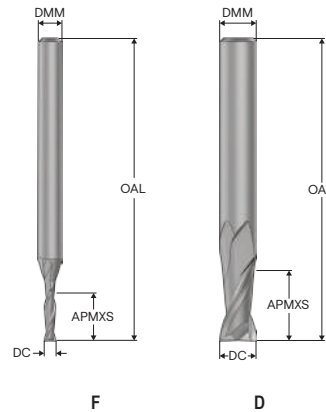


| Designation       | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|-------------------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
|                   |             |              |            | inch  | inch  | inch  | inch  |       |             |                |
| C5121-.031F4S.0Z2 | 10268817    | 4            | F          | 0.031 | 0.125 | 0.094 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.063F4S.0Z2 | 10268822    | 4            | F          | 0.063 | 0.125 | 0.250 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.094F4S.0Z2 | 10268826    | 4            | F          | 0.094 | 0.125 | 0.375 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.125D4S.0Z2 | 10268829    | 4            | D          | 0.125 | 0.125 | 0.500 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.188D4S.0Z2 | 10268837    | 4            | D          | 0.188 | 0.188 | 0.750 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.250D4S.0Z2 | 10268843    | 4            | D          | 0.250 | 0.250 | 1.000 | 3.000 | 2     | Cylindrical | ■              |
| C5121-.313D4S.0Z2 | 10268848    | 4            | D          | 0.313 | 0.313 | 1.000 | 3.000 | 2     | Cylindrical | ■              |
| C5121-.375D4S.0Z2 | 10268853    | 4            | D          | 0.375 | 0.375 | 1.000 | 4.000 | 2     | Cylindrical | ■              |
| C5121-.500D4S.0Z2 | 10268861    | 4            | D          | 0.500 | 0.500 | 1.500 | 6.000 | 2     | Cylindrical | ■              |
| C5121-.625D4S.0Z2 | 10268866    | 4            | D          | 0.625 | 0.625 | 2.250 | 5.000 | 2     | Cylindrical | ■              |
| C5121-.750D4S.0Z2 | 10268870    | 4            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 2     | Cylindrical | ■              |
| C5121-.125D5S.0Z2 | 10268830    | 5            | D          | 0.125 | 0.125 | 0.625 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.375D5S.0Z2 | 10268854    | 5            | D          | 0.375 | 0.375 | 1.125 | 3.000 | 2     | Cylindrical | ■              |
| C5121-.438D5S.0Z2 | 10268857    | 5            | D          | 0.438 | 0.438 | 2.000 | 4.000 | 2     | Cylindrical | ■              |
| C5121-.500D5S.0Z2 | 10268862    | 5            | D          | 0.500 | 0.500 | 2.000 | 4.000 | 2     | Cylindrical | ■              |
| C5121-.625D5S.0Z2 | 10268867    | 5            | D          | 0.625 | 0.625 | 3.000 | 6.000 | 2     | Cylindrical | ■              |
| C5121-.750D5S.0Z2 | 10268871    | 5            | D          | 0.750 | 0.750 | 3.000 | 6.000 | 2     | Cylindrical | ■              |
| C5121-.125D6S.0Z2 | 10268831    | 6            | D          | 0.125 | 0.125 | 0.750 | 3.000 | 2     | Cylindrical | ■              |
| C5121-.188D6S.0Z2 | 10268838    | 6            | D          | 0.188 | 0.188 | 1.000 | 4.000 | 2     | Cylindrical | ■              |
| C5121-.375D6S.0Z2 | 10268855    | 6            | D          | 0.375 | 0.375 | 1.500 | 6.000 | 2     | Cylindrical | ■              |
| C5121-.250D7S.0Z2 | 10268844    | 7            | D          | 0.250 | 0.250 | 1.500 | 4.000 | 2     | Cylindrical | ■              |
| C5121-.500D7S.0Z2 | 10268863    | 7            | D          | 0.500 | 0.500 | 3.000 | 6.000 | 2     | Cylindrical | ■              |
| C5121-.125D8S.0Z2 | 10268832    | 8            | D          | 0.125 | 0.125 | 1.000 | 3.000 | 2     | Cylindrical | ■              |

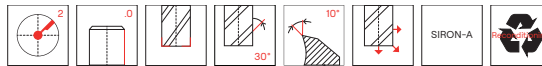
■ Stocked standard.

## C5121

General purpose – Universal – Square – 2 Flutes – Cylindrical – Sharp – Inch



- Tolerances:  
— DMM =  $-.0001"/-.0004"$   
—  $DC \leq \varnothing 7/64" = \pm 0.0005"$   
—  $DC > \varnothing 7/64" = +.000"/-.002"$   
— Regrind possible if DC is  $\geq \varnothing .375$



| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |       |             |              |            | inch  | inch  | inch  | inch  |       |             |                |
| C5121-.375D1S.0Z2  | SIRA  | 10268726    | 1            | D          | 0.375 | 0.375 | 0.625 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.500D1S.0Z2  | SIRA  | 10268734    | 1            | D          | 0.500 | 0.500 | 0.625 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.047F2S.0Z2  | SIRA  | 10268693    | 2            | F          | 0.047 | 0.125 | 0.109 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.063F2S.0Z2  | SIRA  | 10268695    | 2            | F          | 0.063 | 0.125 | 0.125 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.094F2S.0Z2  | SIRA  | 10268699    | 2            | F          | 0.094 | 0.125 | 0.188 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.125D2S.0Z2  | SIRA  | 10268703    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.156F2S.0Z2  | SIRA  | 10268708    | 2            | F          | 0.156 | 0.188 | 0.313 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.188D2S.0Z2  | SIRA  | 10268710    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.250D2S.0Z2  | SIRA  | 10268716    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.313D2S.0Z2  | SIRA  | 10268722    | 2            | D          | 0.313 | 0.313 | 0.500 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.375D2S.0Z2  | SIRA  | 10268727    | 2            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.438D2S.0Z2  | SIRA  | 10268732    | 2            | D          | 0.438 | 0.438 | 1.000 | 2.750 | 2     | Cylindrical | ■              |
| C5121-.500D2S.0Z2  | SIRA  | 10268735    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 2     | Cylindrical | ■              |
| C5121-.563D2S.0Z2  | SIRA  | 10268740    | 2            | D          | 0.563 | 0.563 | 1.125 | 3.500 | 2     | Cylindrical | ■              |
| C5121-.625D2S.0Z2  | SIRA  | 10268741    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 2     | Cylindrical | ■              |
| C5121-.750D2S.0Z2  | SIRA  | 10268745    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 2     | Cylindrical | ■              |
| C5121-.875D2S.0Z2  | SIRA  | 10268748    | 2            | D          | 0.875 | 0.875 | 1.500 | 4.000 | 2     | Cylindrical | ■              |
| C5121-1.000D2S.0Z2 | SIRA  | 10268749    | 2            | D          | 1.000 | 1.000 | 1.500 | 4.000 | 2     | Cylindrical | ■              |
| C5121-.031F3S.0Z2  | SIRA  | 10268691    | 3            | F          | 0.031 | 0.125 | 0.078 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.047F3S.0Z2  | SIRA  | 10268694    | 3            | F          | 0.047 | 0.125 | 0.125 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.063F3S.0Z2  | SIRA  | 10268696    | 3            | F          | 0.063 | 0.125 | 0.188 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.078F3S.0Z2  | SIRA  | 10268698    | 3            | F          | 0.078 | 0.125 | 0.250 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.094F3S.0Z2  | SIRA  | 10268700    | 3            | F          | 0.094 | 0.125 | 0.281 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.109F3S.0Z2  | SIRA  | 10268702    | 3            | F          | 0.109 | 0.125 | 0.375 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.156F3S.0Z2  | SIRA  | 10268709    | 3            | F          | 0.156 | 0.188 | 0.500 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.188D3S.0Z2  | SIRA  | 10268711    | 3            | D          | 0.188 | 0.188 | 0.625 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.203F3S.0Z2  | SIRA  | 10268714    | 3            | F          | 0.203 | 0.250 | 0.625 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.219F3S.0Z2  | SIRA  | 10268715    | 3            | F          | 0.219 | 0.250 | 0.625 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.250D3S.0Z2  | SIRA  | 10268717    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.281F3S.0Z2  | SIRA  | 10268721    | 3            | F          | 0.281 | 0.313 | 0.750 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.313D3S.0Z2  | SIRA  | 10268723    | 3            | D          | 0.313 | 0.313 | 0.813 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.344F3S.0Z2  | SIRA  | 10268725    | 3            | F          | 0.344 | 0.375 | 1.000 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.375D3S.0Z2  | SIRA  | 10268728    | 3            | D          | 0.375 | 0.375 | 1.000 | 3.000 | 2     | Cylindrical | ■              |
| C5121-.500D3S.0Z2  | SIRA  | 10268736    | 3            | D          | 0.500 | 0.500 | 1.000 | 4.000 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

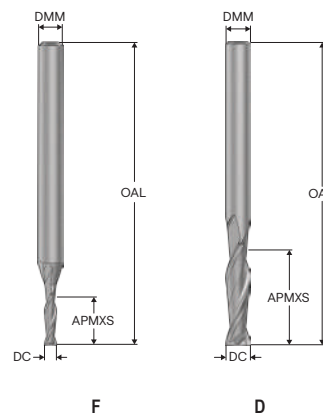
Graphite

X-Heads

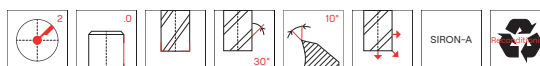
Minimaster

## C5121

General purpose – Universal – Square – 2 Flutes – Cylindrical – Sharp – Inch



—Tolerances:  
—DMM =  $\pm 0.001$ " /  $\pm 0.004$ "  
—DC  $\leq \varnothing 7/64$ " =  $\pm 0.0005$ "  
—DC  $> \varnothing 7/64$ " =  $\pm 0.0007$ " /  $\pm 0.002$ "  
—Regrind possible if DC is  $\geq \varnothing 0.375$



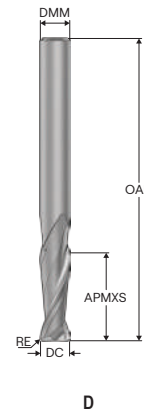
| Designation       | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|-------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
| C5121-.031F4S.0Z2 | SIRA  | 10268692    | 4            | F          | 0.031 | 0.125 | 0.094 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.063F4S.0Z2 | SIRA  | 10268697    | 4            | F          | 0.063 | 0.125 | 0.250 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.094F4S.0Z2 | SIRA  | 10268701    | 4            | F          | 0.094 | 0.125 | 0.375 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.125D4S.0Z2 | SIRA  | 10268704    | 4            | D          | 0.125 | 0.125 | 0.500 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.188D4S.0Z2 | SIRA  | 10268712    | 4            | D          | 0.188 | 0.188 | 0.750 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.250D4S.0Z2 | SIRA  | 10268718    | 4            | D          | 0.250 | 0.250 | 1.000 | 3.000 | 2     | Cylindrical | ■              |
| C5121-.313D4S.0Z2 | SIRA  | 10268724    | 4            | D          | 0.313 | 0.313 | 1.000 | 3.000 | 2     | Cylindrical | ■              |
| C5121-.375D4S.0Z2 | SIRA  | 10268729    | 4            | D          | 0.375 | 0.375 | 1.000 | 4.000 | 2     | Cylindrical | ■              |
| C5121-.500D4S.0Z2 | SIRA  | 10268737    | 4            | D          | 0.500 | 0.500 | 1.500 | 6.000 | 2     | Cylindrical | ■              |
| C5121-.750D4S.0Z2 | SIRA  | 10268746    | 4            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 2     | Cylindrical | ■              |
| C5121-.125D5S.0Z2 | SIRA  | 10268705    | 5            | D          | 0.125 | 0.125 | 0.625 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.375D5S.0Z2 | SIRA  | 10268730    | 5            | D          | 0.375 | 0.375 | 1.125 | 3.000 | 2     | Cylindrical | ■              |
| C5121-.500D5S.0Z2 | SIRA  | 10268738    | 5            | D          | 0.500 | 0.500 | 2.000 | 4.000 | 2     | Cylindrical | ■              |
| C5121-.750D5S.0Z2 | SIRA  | 10268747    | 5            | D          | 0.750 | 0.750 | 3.000 | 6.000 | 2     | Cylindrical | ■              |
| C5121-.125D6S.0Z2 | SIRA  | 10268706    | 6            | D          | 0.125 | 0.125 | 0.750 | 3.000 | 2     | Cylindrical | ■              |
| C5121-.188D6S.0Z2 | SIRA  | 10268713    | 6            | D          | 0.188 | 0.188 | 1.000 | 4.000 | 2     | Cylindrical | ■              |
| C5121-.375D6S.0Z2 | SIRA  | 10268731    | 6            | D          | 0.375 | 0.375 | 1.500 | 6.000 | 2     | Cylindrical | ■              |
| C5121-.250D7S.0Z2 | SIRA  | 10268719    | 7            | D          | 0.250 | 0.250 | 1.500 | 4.000 | 2     | Cylindrical | ■              |
| C5121-.500D7S.0Z2 | SIRA  | 10268739    | 7            | D          | 0.500 | 0.500 | 3.000 | 6.000 | 2     | Cylindrical | ■              |
| C5121-.125D8S.0Z2 | SIRA  | 10268707    | 8            | D          | 0.125 | 0.125 | 1.000 | 3.000 | 2     | Cylindrical | ■              |

■ Stocked standard.



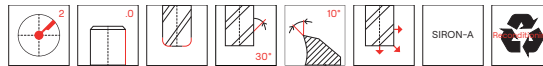
## C5121

General purpose – Universal – Square – 2 Flutes – Cylindrical – Corner radius – Inch



D

- Tolerances:
- DMM=  $-.0001"/-.0004"$
- DC  $\leq \varnothing 7/64" = \pm .0005"$
- DC  $> \varnothing 7/64" = +.000"/-.002"$
- RE=  $\pm .001"$
- Regrind possible if DC is  $\geq \varnothing .375$



| Designation         | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|---------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
|                     |       |             |              |            | inch  | inch  | inch  | inch  | inch  |       |             |                |
| C5121-500D2R015.0Z2 | SIRA  | 10268755    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.015 | 2     | Cylindrical | ■              |
| C5121-500D2R030.0Z2 | SIRA  | 10268756    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.030 | 2     | Cylindrical | ■              |
| C5121-500D2R060.0Z2 | SIRA  | 10268757    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.060 | 2     | Cylindrical | ■              |
| C5121-500D2R125.0Z2 | SIRA  | 10268758    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.125 | 2     | Cylindrical | ■              |
| C5121-625D2R015.0Z2 | SIRA  | 10268759    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.015 | 2     | Cylindrical | ■              |
| C5121-625D2R030.0Z2 | SIRA  | 10268760    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.030 | 2     | Cylindrical | ■              |
| C5121-625D2R125.0Z2 | SIRA  | 10268762    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.125 | 2     | Cylindrical | ■              |
| C5121-750D2R015.0Z2 | SIRA  | 10268763    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.015 | 2     | Cylindrical | ■              |
| C5121-750D2R030.0Z2 | SIRA  | 10268764    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.030 | 2     | Cylindrical | ■              |
| C5121-750D2R060.0Z2 | SIRA  | 10268765    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.060 | 2     | Cylindrical | ■              |
| C5121-750D2R125.0Z2 | SIRA  | 10268766    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.125 | 2     | Cylindrical | ■              |
| C5121-250D3R015.0Z2 | SIRA  | 10268750    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.015 | 2     | Cylindrical | ■              |
| C5121-250D3R030.0Z2 | SIRA  | 10268751    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.030 | 2     | Cylindrical | ■              |
| C5121-375D3R015.0Z2 | SIRA  | 10268752    | 3            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 0.015 | 2     | Cylindrical | ■              |
| C5121-375D3R030.0Z2 | SIRA  | 10268753    | 3            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 0.030 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

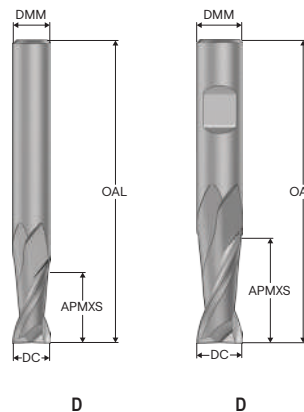
Graphite

X-Heads

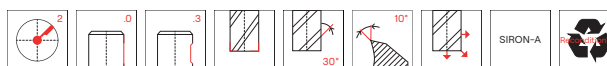
Minimaster

C5121

General purpose – Universal – Square – 2 Flutes – Cylindrical/Weldon – Sharp – Inch



—Tolerances:  
—DMM=+.0001"/-.0004"  
—DC ≤ Ø7/64" = ±.0005"  
—DC > Ø7/64" = +.001"/-.000"  
—NC tolerance  
—Regrind possible if DC is ≥Ø.375

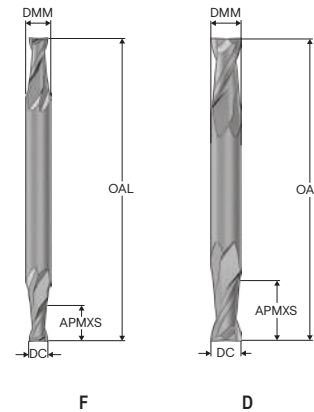


| Designation         | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|---------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
| C5121-.375D2S.3Z2NC | SIRA  | 10269074    | 2            | D          | 0.375 | 0.375 | 0.875 | 2.500 | 2     | Weldon      | ■              |
| C5121-.500D2S.3Z2NC | SIRA  | 10269075    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 2     | Weldon      | ■              |
| C5121-.625D2S.3Z2NC | SIRA  | 10269076    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 2     | Weldon      | ■              |
| C5121-.750D2S.3Z2NC | SIRA  | 10269077    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 2     | Weldon      | ■              |
| C5121-.250D3S.0Z2NC | SIRA  | 10269072    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.313D3S.0Z2NC | SIRA  | 10269073    | 3            | D          | 0.313 | 0.313 | 0.813 | 2.500 | 2     | Cylindrical | ■              |

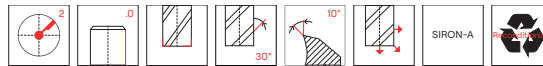
■ Stocked standard.

## C5121

General purpose – Universal – Square – 2 Flutes – Cylindrical – Sharp – Inch



- Tolerances:
- DMM =  $-.0001"/-0.0004"$
- DC  $\leq \varnothing 7/64" = \pm 0.0005"$
- DC  $> \varnothing 7/64" = +0.000"/-0.002"$
- Double end
- Regrind possible if DC is  $\geq \varnothing .375$



| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |       |             |              |            | inch  | inch  | inch  | inch  |       |             |                |
| C5121-.500D1S.0Z2D | SIRA  | 10269088    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 2     | Cylindrical | ■              |
| C5121-.031F2S.0Z2D | SIRA  | 10269078    | 2            | F          | 0.031 | 0.125 | 0.063 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.047F2S.0Z2D | SIRA  | 10269079    | 2            | F          | 0.047 | 0.125 | 0.094 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.063F2S.0Z2D | SIRA  | 10269080    | 2            | F          | 0.063 | 0.125 | 0.125 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.078F2S.0Z2D | SIRA  | 10269081    | 2            | F          | 0.078 | 0.125 | 0.125 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.094F2S.0Z2D | SIRA  | 10269082    | 2            | F          | 0.094 | 0.125 | 0.188 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.125D2S.0Z2D | SIRA  | 10269083    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 2     | Cylindrical | ■              |
| C5121-.188D2S.0Z2D | SIRA  | 10269084    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 2     | Cylindrical | ■              |
| C5121-.250D2S.0Z2D | SIRA  | 10269085    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.313D2S.0Z2D | SIRA  | 10269086    | 2            | D          | 0.313 | 0.313 | 0.500 | 2.500 | 2     | Cylindrical | ■              |
| C5121-.375D2S.0Z2D | SIRA  | 10269087    | 2            | D          | 0.375 | 0.375 | 0.563 | 2.500 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – C5121 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |         |         |         |         |         |         |        | v <sub>c</sub>  |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|-----------------|
|     |                                                                                   |                    |                    | 1              | 1,5     | 2       | 3       | 3,5     | 4       | 5       | 6       | 8       | 9       | 10      | 12     |                 |
| P1  | E                                                                                 | 0,1                | 2                  | 0,0048         | 0,0075  | 0,01    | 0,015   | 0,017   | 0,02    | 0,025   | 0,03    | 0,04    | 0,044   | 0,048   | 0,06   | 150 (135 — 165) |
|     |                                                                                   | 0.10               | 2.0                | 0.00019        | 0.00030 | 0.00040 | 0.00060 | 0.00065 | 0.00080 | 0.0010  | 0.0012  | 0.0016  | 0.0017  | 0.0019  | 0.0024 | 490 (440— 540)  |
| P2  | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 58 (45— 70)     |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 190 (147 — 230) |
| P3  | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 85 (70 — 95)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 279 (246 — 312) |
| P4  | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 100 (90 — 110)  |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 330 (295 — 360) |
| P5  | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 68 (50 — 75)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 223 (165 — 245) |
| P6  | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 87 (77 — 100)   |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 285 (250 — 330) |
| P7  | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 65 (55 — 75)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 213 (180 — 245) |
| P8  | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 65 (55 — 75)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 213 (165 — 245) |
| P11 | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 85 (70 — 95)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 280 (230 — 310) |
| P12 | E                                                                                 | 0,1                | 2                  | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038  | 55 (45— 65)     |
|     |                                                                                   | 0.10               | 2.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015 | 180 (147 — 213) |
| M1  | E                                                                                 | 0,1                | 2                  | 0,0048         | 0,0075  | 0,01    | 0,015   | 0,017   | 0,02    | 0,025   | 0,03    | 0,04    | 0,044   | 0,048   | 0,06   | 93 (83 — 100)   |
|     |                                                                                   | 0.10               | 2.0                | 0.00019        | 0.00030 | 0.00040 | 0.00060 | 0.00065 | 0.00080 | 0.0010  | 0.0012  | 0.0016  | 0.0017  | 0.0019  | 0.0024 | 305 (270 — 360) |
| M2  | E                                                                                 | 0,1                | 2                  | 0,0048         | 0,0075  | 0,01    | 0,015   | 0,017   | 0,02    | 0,025   | 0,03    | 0,04    | 0,044   | 0,048   | 0,06   | 60 (50 — 70)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00019        | 0.00030 | 0.00040 | 0.00060 | 0.00065 | 0.00080 | 0.0010  | 0.0012  | 0.0016  | 0.0017  | 0.0019  | 0.0024 | 200 (165 — 230) |
| M3  | E                                                                                 | 0,1                | 2                  | 0,0048         | 0,0075  | 0,01    | 0,015   | 0,017   | 0,02    | 0,025   | 0,03    | 0,04    | 0,044   | 0,048   | 0,06   | 55 (45— 65)     |
|     |                                                                                   | 0.10               | 2.0                | 0.00019        | 0.00030 | 0.00040 | 0.00060 | 0.00065 | 0.00080 | 0.0010  | 0.0012  | 0.0016  | 0.0017  | 0.0019  | 0.0024 | 180 (147 — 213) |
| M4  | E                                                                                 | 0,1                | 2                  | 0,0048         | 0,0075  | 0,01    | 0,015   | 0,017   | 0,02    | 0,025   | 0,03    | 0,04    | 0,044   | 0,048   | 0,06   | 45 (35 — 55)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00019        | 0.00030 | 0.00040 | 0.00060 | 0.00065 | 0.00080 | 0.0010  | 0.0012  | 0.0016  | 0.0017  | 0.0019  | 0.0024 | 147 (115 — 180) |
| M5  | E                                                                                 | 0,1                | 2                  | 0,0044         | 0,0065  | 0,0085  | 0,013   | 0,015   | 0,017   | 0,022   | 0,026   | 0,034   | 0,038   | 0,042   | 0,05   | 35 (20 — 45)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00017        | 0.00026 | 0.00034 | 0.00050 | 0.00060 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0015  | 0.0017  | 0.0020 | 114 (65 — 147)  |
| K1  | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 80 (70 — 90)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 260 (230 — 290) |
| K2  | E                                                                                 | 0,1                | 2                  | 0,0055         | 0,0085  | 0,011   | 0,017   | 0,02    | 0,022   | 0,028   | 0,034   | 0,044   | 0,05    | 0,055   | 0,065  | 87 (75 — 100)   |
|     |                                                                                   | 0.10               | 2.0                | 0.00022        | 0.00034 | 0.00044 | 0.00065 | 0.00080 | 0.00085 | 0.0011  | 0.0013  | 0.0017  | 0.0020  | 0.0022  | 0.0026 | 285 (245 — 330) |
| K3  | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 65 (55 — 75)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 213 (180 — 245) |
| K4  | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 50 (35 — 65)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 165 (115 — 213) |
| K5  | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 45 (30 — 55)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 147 (100 — 180) |
| K6  | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 77 (65 — 85)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 250 (210 — 280) |
| K7  | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 77 (60 — 90)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 250 (200 — 290) |
| S1  | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 50 (35 — 60)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 165 (115 — 200) |
| S2  | E                                                                                 | 0,1                | 2                  | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038  | 25 (15 — 35)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015 | 82 (50 — 115)   |
| S3  | E                                                                                 | 0,1                | 2                  | 0,002          | 0,0032  | 0,0042  | 0,0065  | 0,0075  | 0,0085  | 0,01    | 0,013   | 0,017   | 0,019   | 0,02    | 0,025  | 11 (7,5 — 16)   |
|     |                                                                                   | 0.10               | 2.0                | 0.000080       | 0.00013 | 0.00017 | 0.00026 | 0.00030 | 0.00034 | 0.00040 | 0.00050 | 0.00065 | 0.00075 | 0.00080 | 0.0010 | 35 (25 — 52)    |
| S11 | E                                                                                 | 0,1                | 2                  | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 110 (95 — 120)  |
|     |                                                                                   | 0.10               | 2.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 360 (311 — 390) |
| S12 | E                                                                                 | 0,1                | 2                  | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038  | 77 (60 — 90)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015 | 250 (190 — 290) |
| S13 | E                                                                                 | 0,1                | 2                  | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038  | 30 (20 — 40)    |
|     |                                                                                   | 0.10               | 2.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015 | 100 (65 — 130)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Cutting data – C5121 Side milling – Inch

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>     |                   |                   |                   |                  |                  |                  |                  |                 |                 |                 |                 |                 | v <sub>c</sub>                     |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|--------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                    |                    | 1/32               | 1/16              | 1/8               | 1/6               | 1/5              | 2/9              | 1/4              | 1/3              | 3/8             | 1/2             | 5/8             | 3/4             | 1               |                                    |
| P1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,095<br>0.0038 | 0,12<br>0.0048  | 150 (135 — 165)<br>490 (440 — 540) |
| P2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 58 (45 — 70)<br>190 (147 — 230)    |
| P3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 85 (70 — 95)<br>279 (246 — 312)    |
| P4  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 100 (90 — 110)<br>330 (295 — 360)  |
| P5  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 68 (50 — 75)<br>223 (165 — 245)    |
| P6  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 87 (77 — 100)<br>285 (250 — 330)   |
| P7  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 65 (55 — 75)<br>213 (180 — 245)    |
| P8  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 65 (55 — 75)<br>213 (165 — 245)    |
| P11 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 85 (70 — 95)<br>280 (230 — 310)    |
| P12 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00010  | 0,0065<br>0.00020 | 0,013<br>0.00040  | 0,016<br>0.00050  | 0,02<br>0.00060  | 0,022<br>0.00070 | 0,026<br>0.00080 | 0,032<br>0.0010  | 0,04<br>0.0012  | 0,05<br>0.0016  | 0,065<br>0.0020 | 0,08<br>0.0024  | 0,1<br>0.0032   | 55 (45 — 65)<br>180 (147 — 213)    |
| M1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,095<br>0.0038 | 0,12<br>0.0048  | 93 (83 — 100)<br>305 (270 — 360)   |
| M2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,095<br>0.0038 | 0,12<br>0.0048  | 60 (50 — 70)<br>200 (165 — 230)    |
| M3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,095<br>0.0038 | 0,12<br>0.0048  | 55 (45 — 65)<br>180 (147 — 213)    |
| M4  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,09<br>0.0036  | 0,1<br>0.0040   | 45 (35 — 55)<br>147 (115 — 180)    |
| M5  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0034<br>0.00013  | 0,007<br>0.00028  | 0,014<br>0.00055  | 0,017<br>0.00065  | 0,02<br>0.00080  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,034<br>0.0013  | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,08<br>0.0032  | 0,11<br>0.0044  | 35 (20 — 45)<br>114 (65 — 147)     |
| K1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 80 (70 — 90)<br>260 (230 — 290)    |
| K2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0044<br>0.00017  | 0,009<br>0.00036  | 0,018<br>0.00070  | 0,022<br>0.00085  | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,044<br>0.0017  | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,09<br>0.0036  | 0,11<br>0.0044  | 0,14<br>0.0055  | 87 (75 — 100)<br>285 (245 — 330)   |
| K3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 65 (55 — 75)<br>213 (180 — 245)    |
| K4  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 50 (35 — 65)<br>165 (115 — 213)    |
| K5  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 45 (30 — 55)<br>147 (100 — 180)    |
| K6  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 77 (65 — 85)<br>250 (210 — 280)    |
| K7  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 77 (60 — 90)<br>250 (200 — 290)    |
| S1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 50 (35 — 60)<br>165 (115 — 200)    |
| S2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,06<br>0.0024  | 0,08<br>0.0032  | 25 (15 — 35)<br>82 (50 — 115)      |
| S3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0017<br>0.000065 | 0,0034<br>0.00013 | 0,0065<br>0.00026 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,012<br>0.00048 | 0,013<br>0.00050 | 0,017<br>0.00065 | 0,02<br>0.00080 | 0,026<br>0.0010 | 0,034<br>0.0013 | 0,04<br>0.0016  | 0,055<br>0.0022 | 11 (7,5 — 16)<br>35 (25 — 52)      |
| S11 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 110 (95 — 120)<br>360 (311 — 390)  |
| S12 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,06<br>0.0024  | 0,08<br>0.0032  | 77 (60 — 90)<br>250 (190 — 290)    |
| S13 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,06<br>0.0024  | 0,08<br>0.0032  | 30 (20 — 40)<br>100 (65 — 130)     |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
Steel and cast iron  
Stainless steel and S-materials  
Non ferrous  
Hard  
Plastic and cfrip  
Graphite  
X-Heads  
Minimaster

## Cutting data – C5121 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |          |          |         |         |         |         |         |         |         |         |         | v <sub>c</sub>  |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|----------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------------|
|     |                                                                                   |                    | 1              | 1,5      | 2        | 3       | 3,5     | 4       | 5       | 6       | 8       | 9       | 10      | 12      |                 |
| P1  | E                                                                                 | 1                  | 0,0024         | 0,0034   | 0,0046   | 0,007   | 0,008   | 0,009   | 0,012   | 0,014   | 0,018   | 0,02    | 0,024   | 0,028   | 75 (50 — 85)    |
|     |                                                                                   | 1.0                | 0.000095       | 0.00013  | 0.00018  | 0.00028 | 0.00032 | 0.00036 | 0.00048 | 0.00055 | 0.00070 | 0.00080 | 0.00095 | 0.0011  | 245 (170 — 270) |
| P2  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 32 (20 — 40)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 100 (66 — 130)  |
| P3  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 45 (30 — 60)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 147 (98 — 196)  |
| P4  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 55 (40 — 65)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 180 (130 — 210) |
| P5  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 35 (20 — 45)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 115 (65 — 145)  |
| P6  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 45 (30 — 60)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 145 (100 — 195) |
| P7  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 35 (20 — 50)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 115 (65 — 165)  |
| P8  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 25 (15 — 35)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 80 (50 — 110)   |
| P11 | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 32 (20 — 42)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 105 (65 — 138)  |
| P12 | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 30 (20 — 40)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 100 (65 — 130)  |
| M1  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 42 (21 — 52)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 138 (69 — 170)  |
| M2  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 32 (20 — 42)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 105 (65 — 138)  |
| M3  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 30 (15 — 40)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 100 (50 — 130)  |
| M4  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 22 (10 — 35)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 72 (33 — 115)   |
| M5  | E                                                                                 | 1                  | 0,0013         | 0,002    | 0,0026   | 0,004   | 0,0046  | 0,005   | 0,0065  | 0,008   | 0,01    | 0,012   | 0,013   | 0,016   | 19 (16 — 30)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.000080 | 0.00010  | 0.00016 | 0.00018 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00048 | 0.00050 | 0.00065 | 62 (52 — 100)   |
| K1  | E                                                                                 | 1                  | 0,0024         | 0,0034   | 0,0046   | 0,007   | 0,008   | 0,009   | 0,012   | 0,014   | 0,018   | 0,02    | 0,024   | 0,028   | 30 (20 — 45)    |
|     |                                                                                   | 1.0                | 0.000095       | 0.00013  | 0.00018  | 0.00028 | 0.00032 | 0.00036 | 0.00048 | 0.00055 | 0.00070 | 0.00080 | 0.00095 | 0.0011  | 100 (65 — 147)  |
| K2  | E                                                                                 | 1                  | 0,0024         | 0,0034   | 0,0046   | 0,007   | 0,008   | 0,009   | 0,012   | 0,014   | 0,018   | 0,02    | 0,024   | 0,028   | 40 (30 — 50)    |
|     |                                                                                   | 1.0                | 0.000095       | 0.00013  | 0.00018  | 0.00028 | 0.00032 | 0.00036 | 0.00048 | 0.00055 | 0.00070 | 0.00080 | 0.00095 | 0.0011  | 130 (100 — 165) |
| K3  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 32 (26 — 45)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 105 (85 — 148)  |
| K4  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 22 (18 — 30)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 72 (60 — 100)   |
| K5  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 20 (15 — 30)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 65 (50 — 100)   |
| K6  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 35 (20 — 50)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 115 (65 — 165)  |
| K7  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 35 (20 — 50)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 115 (65 — 165)  |
| S1  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 25 (18 — 30)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 80 (60 — 100)   |
| S2  | E                                                                                 | 1                  | 0,001          | 0,0015   | 0,002    | 0,003   | 0,0036  | 0,004   | 0,005   | 0,006   | 0,008   | 0,009   | 0,01    | 0,012   | 13 (9 — 18)     |
|     |                                                                                   | 1.0                | 0.000040       | 0.000060 | 0.000080 | 0.00012 | 0.00014 | 0.00016 | 0.00020 | 0.00024 | 0.00032 | 0.00036 | 0.00040 | 0.00048 | 62 (30 — 60)    |
| S3  | E                                                                                 | 1                  | 0,001          | 0,0015   | 0,002    | 0,003   | 0,0036  | 0,004   | 0,005   | 0,006   | 0,008   | 0,009   | 0,01    | 0,012   | 7,0 (5 — 12)    |
|     |                                                                                   | 1.0                | 0.000040       | 0.000060 | 0.000080 | 0.00012 | 0.00014 | 0.00016 | 0.00020 | 0.00024 | 0.00032 | 0.00036 | 0.00040 | 0.00048 | 23 (15 — 39)    |
| S11 | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 35 (25 — 40)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 114 (82 — 130)  |
| S12 | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 32 (22 — 40)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 105 (72 — 130)  |
| S13 | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 10 (8 — 15)     |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 33 (26 — 50)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

#### Cutting data – C5121 Slot milling – Inch

| SMG |  | $a_p$ /DC | $f_z$              |                    |                   |                   |                   |                   |                   |                  |                   |                  |                  |                  |                 | $v_c$                           |
|-----|-----------------------------------------------------------------------------------|-----------|--------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|-------------------|------------------|------------------|------------------|-----------------|---------------------------------|
|     |                                                                                   |           | 1/32               | 1/16               | 1/8               | 1/6               | 1/5               | 2/9               | 1/4               | 1/3              | 3/8               | 1/2              | 5/8              | 3/4              | 1               |                                 |
| P1  | E                                                                                 | 1<br>1.0  | 0,0018<br>0.000070 | 0,0036<br>0.00014  | 0,0075<br>0.00030 | 0,009<br>0.00036  | 0,011<br>0.00044  | 0,013<br>0.00050  | 0,015<br>0.00060  | 0,018<br>0.00070 | 0,022<br>0.00085  | 0,03<br>0.0012   | 0,036<br>0.0014  | 0,044<br>0.0017  | 0,06<br>0.0024  | 75 (50 — 85)<br>245 (170 — 270) |
| P2  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 32 (20 — 40)<br>100 (66 — 130)  |
| P3  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 45 (30 — 60)<br>147 (98 — 196)  |
| P4  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 55 (40 — 65)<br>180 (130 — 210) |
| P5  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 35 (20 — 45)<br>115 (65 — 145)  |
| P6  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 45 (30 — 60)<br>145 (100 — 195) |
| P7  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 35 (20 — 50)<br>115 (65 — 165)  |
| P8  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 25 (15 — 35)<br>80 (50 — 110)   |
| P11 | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 32 (20 — 42)<br>105 (65 — 138)  |
| P12 | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 30 (20 — 40)<br>100 (65 — 130)  |
| M1  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 42 (21 — 52)<br>138 (69 — 170)  |
| M2  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 32 (20 — 42)<br>105 (65 — 138)  |
| M3  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 30 (15 — 40)<br>100 (50 — 130)  |
| M4  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 22 (10 — 35)<br>72 (33 — 115)   |
| M5  | E                                                                                 | 1<br>1.0  | 0,001<br>0.000040  | 0,002<br>0.000080  | 0,0042<br>0.00017 | 0,005<br>0.00020  | 0,006<br>0.00024  | 0,007<br>0.00028  | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,012<br>0.00048  | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,034<br>0.0013 | 19 (16 — 30)<br>62 (52 — 100)   |
| K1  | E                                                                                 | 1<br>1.0  | 0,0018<br>0.000070 | 0,0036<br>0.00014  | 0,0075<br>0.00030 | 0,009<br>0.00036  | 0,011<br>0.00044  | 0,013<br>0.00050  | 0,015<br>0.00060  | 0,018<br>0.00070 | 0,022<br>0.00085  | 0,03<br>0.0012   | 0,036<br>0.0014  | 0,044<br>0.0017  | 0,06<br>0.0024  | 30 (20 — 45)<br>100 (65 — 147)  |
| K2  | E                                                                                 | 1<br>1.0  | 0,0018<br>0.000070 | 0,0036<br>0.00014  | 0,0075<br>0.00030 | 0,009<br>0.00036  | 0,011<br>0.00044  | 0,013<br>0.00050  | 0,015<br>0.00060  | 0,018<br>0.00070 | 0,022<br>0.00085  | 0,03<br>0.0012   | 0,036<br>0.0014  | 0,044<br>0.0017  | 0,06<br>0.0024  | 40 (30 — 50)<br>130 (100 — 165) |
| K3  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 32 (26 — 45)<br>105 (85 — 148)  |
| K4  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 22 (18 — 30)<br>72 (60 — 100)   |
| K5  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 20 (15 — 30)<br>65 (50 — 100)   |
| K6  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 35 (20 — 50)<br>115 (65 — 165)  |
| K7  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 35 (20 — 50)<br>115 (65 — 165)  |
| S1  | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 25 (18 — 30)<br>80 (60 — 100)   |
| S2  | E                                                                                 | 1<br>1.0  | 0,0008<br>0.000032 | 0,0016<br>0.000065 | 0,0032<br>0.00013 | 0,004<br>0.00016  | 0,0048<br>0.00019 | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032 | 0,0095<br>0.00038 | 0,013<br>0.00050 | 0,016<br>0.00065 | 0,019<br>0.00075 | 0,025<br>0.0010 | 13 (9 — 18)<br>62 (30 — 60)     |
| S3  | E                                                                                 | 1<br>1.0  | 0,0008<br>0.000032 | 0,0016<br>0.000065 | 0,0032<br>0.00013 | 0,004<br>0.00016  | 0,0048<br>0.00019 | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032 | 0,0095<br>0.00038 | 0,013<br>0.00050 | 0,016<br>0.00065 | 0,019<br>0.00075 | 0,025<br>0.0010 | 7,0 (5 — 12)<br>23 (15 — 39)    |
| S11 | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 35 (25 — 40)<br>114 (82 — 130)  |
| S12 | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 32 (22 — 40)<br>105 (72 — 130)  |
| S13 | E                                                                                 | 1<br>1.0  | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 10 (8 — 15)<br>33 (26 — 50)     |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

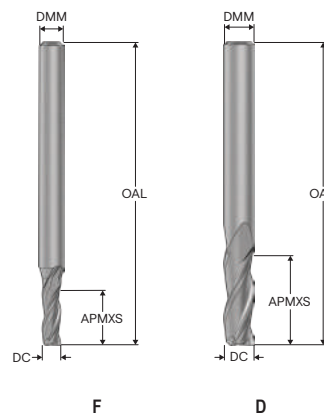
All cutting data are target values

|                                 |
|---------------------------------|
| Universal                       |
| Steel and cast iron             |
| Stainless steel and S-materials |
| Non ferrous                     |
| Hard                            |
| Plastic and cfrrp               |
| Graphite                        |
| X-Heads                         |
| Minimaster                      |

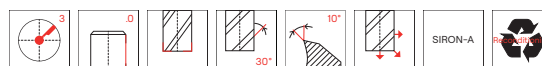


## C5131

General purpose – Universal – Square – 3 Flutes – Cylindrical – Sharp



—Tolerances:  
—DMM=h5  
—DC= h10  
—Regrind possible if DC is  $\geq \varnothing 10$



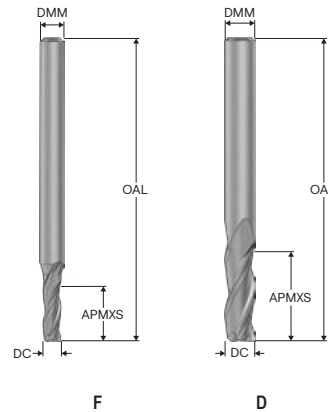
| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|-------|-------------|----------------|
| C5131-060D1S.0Z3 | SIRA  | 10268801    | 1            | D          | mm   | mm   | mm    | mm    |       |             |                |
| C5131-020F2S.0Z3 | SIRA  | 10268792    | 2            | F          | 6,0  | 6,0  | 9,0   | 57,0  | 3     | Cylindrical | ■              |
| C5131-030D2S.0Z3 | SIRA  | 10268794    | 2            | D          | 2,0  | 3,0  | 4,0   | 38,0  | 3     | Cylindrical | ■              |
| C5131-040D2S.0Z3 | SIRA  | 10268797    | 2            | D          | 3,0  | 3,0  | 6,0   | 38,0  | 3     | Cylindrical | ■              |
| C5131-050F2S.0Z3 | SIRA  | 10268799    | 2            | F          | 4,0  | 4,0  | 8,0   | 50,0  | 3     | Cylindrical | ■              |
| C5131-060D2S.0Z3 | SIRA  | 10268802    | 2            | D          | 5,0  | 6,0  | 10,0  | 57,0  | 3     | Cylindrical | ■              |
| C5131-080D2S.0Z3 | SIRA  | 10268804    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | 3     | Cylindrical | ■              |
| C5131-090F2S.0Z3 | SIRA  | 10268806    | 2            | F          | 8,0  | 8,0  | 16,0  | 63,0  | 3     | Cylindrical | ■              |
| C5131-100D2S.0Z3 | SIRA  | 10268807    | 2            | D          | 9,0  | 10,0 | 22,0  | 72,0  | 3     | Cylindrical | ■              |
| C5131-120D2S.0Z3 | SIRA  | 10268809    | 2            | D          | 10,0 | 10,0 | 22,0  | 72,0  | 3     | Cylindrical | ■              |
| C5131-015F3S.0Z3 | SIRA  | 10268791    | 3            | F          | 12,0 | 12,0 | 25,0  | 83,0  | 3     | Cylindrical | ■              |
| C5131-020F3S.0Z3 | SIRA  | 10268793    | 3            | F          | 1,5  | 3,0  | 4,5   | 38,0  | 3     | Cylindrical | ■              |
| C5131-035F3S.0Z3 | SIRA  | 10268796    | 3            | F          | 2,0  | 3,0  | 6,3   | 38,0  | 3     | Cylindrical | ■              |
| C5131-050F3S.0Z3 | SIRA  | 10268800    | 3            | F          | 3,5  | 4,0  | 12,0  | 50,0  | 3     | Cylindrical | ■              |
| C5131-060D3S.0Z3 | SIRA  | 10268803    | 3            | D          | 5,0  | 6,0  | 16,0  | 57,0  | 3     | Cylindrical | ■              |
| C5131-080D3S.0Z3 | SIRA  | 10268805    | 3            | D          | 6,0  | 6,0  | 19,0  | 63,0  | 3     | Cylindrical | ■              |
| C5131-010F4S.0Z3 | SIRA  | 10268790    | 4            | F          | 8,0  | 8,0  | 20,0  | 63,0  | 3     | Cylindrical | ■              |
| C5131-030D4S.0Z3 | SIRA  | 10268795    | 4            | D          | 1,0  | 3,0  | 4,0   | 38,0  | 3     | Cylindrical | ■              |
| C5131-040D4S.0Z3 | SIRA  | 10268798    | 4            | D          | 3,0  | 3,0  | 12,0  | 38,0  | 3     | Cylindrical | ■              |
| C5131-100D4S.0Z3 | SIRA  | 10268808    | 4            | D          | 4,0  | 4,0  | 14,0  | 50,0  | 3     | Cylindrical | ■              |
| C5131-120D4S.0Z3 | SIRA  | 10268810    | 4            | D          | 10,0 | 10,0 | 35,0  | 89,0  | 3     | Cylindrical | ■              |
| C5131-120D4S.0Z3 | SIRA  | 10268810    | 4            | D          | 12,0 | 12,0 | 50,0  | 100,0 | 3     | Cylindrical | ■              |

■ Stocked standard.

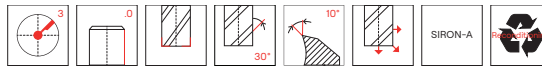


## C5131

General purpose – Universal – Square – 3 Flutes – Cylindrical – Sharp – Inch



- Tolerances:
- DMM =  $-.0001"/-0.0004"$
- DC  $\leq \varnothing 7/64" = \pm 0.0005"$
- DC  $> \varnothing 7/64" = +0.000"/-0.002"$
- Regrind possible if DC is  $\geq \varnothing .375$



| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |       |             |              |            | inch  | inch  | inch  | inch  |       |             |                |
| C5131-.047F2S.0Z3  | SIRA  | 10268772    | 2            | F          | 0.047 | 0.125 | 0.109 | 1.500 | 3     | Cylindrical | ■              |
| C5131-.078F2S.0Z3  | SIRA  | 10268774    | 2            | F          | 0.078 | 0.125 | 0.188 | 1.500 | 3     | Cylindrical | ■              |
| C5131-.438D2S.0Z3  | SIRA  | 10268784    | 2            | D          | 0.438 | 0.438 | 1.000 | 2.750 | 3     | Cylindrical | ■              |
| C5131-.500D2S.0Z3  | SIRA  | 10268785    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 3     | Cylindrical | ■              |
| C5131-.563D2S.0Z3  | SIRA  | 10268786    | 2            | D          | 0.563 | 0.563 | 1.125 | 3.500 | 3     | Cylindrical | ■              |
| C5131-.625D2S.0Z3  | SIRA  | 10268787    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 3     | Cylindrical | ■              |
| C5131-.750D2S.0Z3  | SIRA  | 10268788    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 3     | Cylindrical | ■              |
| C5131-1.000D2S.0Z3 | SIRA  | 10268789    | 2            | D          | 1.000 | 1.000 | 1.500 | 4.000 | 3     | Cylindrical | ■              |
| C5131-.031F3S.0Z3  | SIRA  | 10268771    | 3            | F          | 0.031 | 0.125 | 0.078 | 1.500 | 3     | Cylindrical | ■              |
| C5131-.063F3S.0Z3  | SIRA  | 10268773    | 3            | F          | 0.063 | 0.125 | 0.188 | 1.500 | 3     | Cylindrical | ■              |
| C5131-.094F3S.0Z3  | SIRA  | 10268775    | 3            | F          | 0.094 | 0.125 | 0.281 | 1.500 | 3     | Cylindrical | ■              |
| C5131-.109F3S.0Z3  | SIRA  | 10268776    | 3            | F          | 0.109 | 0.125 | 0.375 | 1.500 | 3     | Cylindrical | ■              |
| C5131-.156F3S.0Z3  | SIRA  | 10268778    | 3            | F          | 0.156 | 0.188 | 0.500 | 2.000 | 3     | Cylindrical | ■              |
| C5131-.188D3S.0Z3  | SIRA  | 10268779    | 3            | D          | 0.188 | 0.188 | 0.625 | 2.000 | 3     | Cylindrical | ■              |
| C5131-.250D3S.0Z3  | SIRA  | 10268781    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 3     | Cylindrical | ■              |
| C5131-.313D3S.0Z3  | SIRA  | 10268782    | 3            | D          | 0.313 | 0.313 | 0.813 | 2.500 | 3     | Cylindrical | ■              |
| C5131-.375D3S.0Z3  | SIRA  | 10268783    | 3            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 3     | Cylindrical | ■              |
| C5131-.125D4S.0Z3  | SIRA  | 10268777    | 4            | D          | 0.125 | 0.125 | 0.500 | 1.500 | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – C5131 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |         |         |         |         |         |         |        | v <sub>c</sub>  |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|-----------------|
|     |                                                                                   |                    |                    | 1              | 1,5     | 2       | 3       | 3,5     | 4       | 5       | 6       | 8       | 9       | 10      | 12     |                 |
| P1  | E                                                                                 | 0,1                | 1,9                | 0,0048         | 0,0075  | 0,01    | 0,015   | 0,017   | 0,02    | 0,025   | 0,03    | 0,04    | 0,044   | 0,048   | 0,06   | 150 (135 — 165) |
|     |                                                                                   | 0.10               | 1.9                | 0.00019        | 0.00030 | 0.00040 | 0.00060 | 0.00065 | 0.00080 | 0.0010  | 0.0012  | 0.0016  | 0.0017  | 0.0019  | 0.0024 | 490 (440— 540)  |
| P2  | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 58 (45— 70)     |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 190 (147 — 230) |
| P3  | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 85 (70 — 95)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 279 (246 — 312) |
| P4  | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 100 (90 — 110)  |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 330 (295 — 360) |
| P5  | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 68 (50 — 75)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 223 (165 — 245) |
| P6  | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 87 (77 — 100)   |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 285 (250 — 330) |
| P7  | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 65 (55 — 75)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 213 (180 — 245) |
| P8  | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 65 (50 — 75)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 213 (165 — 245) |
| P11 | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 85 (70 — 95)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 280 (230 — 310) |
| P12 | E                                                                                 | 0,1                | 1,9                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038  | 55 (45— 65)     |
|     |                                                                                   | 0.10               | 1.9                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015 | 180 (147 — 213) |
| M1  | E                                                                                 | 0,1                | 1,9                | 0,0048         | 0,0075  | 0,01    | 0,015   | 0,017   | 0,02    | 0,025   | 0,03    | 0,04    | 0,044   | 0,048   | 0,06   | 93 (83 — 100)   |
|     |                                                                                   | 0.10               | 1.9                | 0.00019        | 0.00030 | 0.00040 | 0.00060 | 0.00065 | 0.00080 | 0.0010  | 0.0012  | 0.0016  | 0.0017  | 0.0019  | 0.0024 | 305 (270 — 360) |
| M2  | E                                                                                 | 0,1                | 1,9                | 0,0048         | 0,0075  | 0,01    | 0,015   | 0,017   | 0,02    | 0,025   | 0,03    | 0,04    | 0,044   | 0,048   | 0,06   | 60 (50 — 70)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00019        | 0.00030 | 0.00040 | 0.00060 | 0.00065 | 0.00080 | 0.0010  | 0.0012  | 0.0016  | 0.0017  | 0.0019  | 0.0024 | 200 (165 — 230) |
| M3  | E                                                                                 | 0,1                | 1,9                | 0,0048         | 0,0075  | 0,01    | 0,015   | 0,017   | 0,02    | 0,025   | 0,03    | 0,04    | 0,044   | 0,048   | 0,06   | 55 (45— 65)     |
|     |                                                                                   | 0.10               | 1.9                | 0.00019        | 0.00030 | 0.00040 | 0.00060 | 0.00065 | 0.00080 | 0.0010  | 0.0012  | 0.0016  | 0.0017  | 0.0019  | 0.0024 | 180 (147 — 213) |
| M4  | E                                                                                 | 0,1                | 1,9                | 0,0048         | 0,0075  | 0,01    | 0,015   | 0,017   | 0,02    | 0,025   | 0,03    | 0,04    | 0,044   | 0,048   | 0,06   | 45 (35 — 55)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00019        | 0.00030 | 0.00040 | 0.00060 | 0.00065 | 0.00080 | 0.0010  | 0.0012  | 0.0016  | 0.0017  | 0.0019  | 0.0024 | 147 (115 — 180) |
| M5  | E                                                                                 | 0,1                | 1,9                | 0,0044         | 0,0065  | 0,0085  | 0,013   | 0,015   | 0,017   | 0,022   | 0,026   | 0,034   | 0,038   | 0,042   | 0,05   | 35 (20 — 45)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00017        | 0.00026 | 0.00034 | 0.00050 | 0.00060 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0015  | 0.0017  | 0.0020 | 114 (65 — 147)  |
| K1  | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 80 (70 — 90)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 260 (230 — 290) |
| K2  | E                                                                                 | 0,1                | 1,9                | 0,0055         | 0,0085  | 0,011   | 0,017   | 0,02    | 0,022   | 0,028   | 0,034   | 0,044   | 0,05    | 0,055   | 0,065  | 87 (75 — 100)   |
|     |                                                                                   | 0.10               | 1.9                | 0.00022        | 0.00034 | 0.00044 | 0.00065 | 0.00080 | 0.00085 | 0.0011  | 0.0013  | 0.0017  | 0.0020  | 0.0022  | 0.0026 | 285 (245 — 330) |
| K3  | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 65 (55 — 75)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 213 (180 — 245) |
| K4  | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 50 (35 — 65)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 165 (115 — 213) |
| K5  | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 45 (30 — 55)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 147 (100 — 180) |
| K6  | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 77 (65 — 85)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 250 (210 — 280) |
| K7  | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 77 (60 — 90)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 250 (200 — 290) |
| S1  | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 50 (35 — 60)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 165 (115 — 200) |
| S2  | E                                                                                 | 0,1                | 1,9                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038  | 25 (15 — 35)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015 | 82 (50 — 115)   |
| S3  | E                                                                                 | 0,1                | 1,9                | 0,002          | 0,0032  | 0,0042  | 0,0065  | 0,0075  | 0,0085  | 0,01    | 0,013   | 0,017   | 0,019   | 0,02    | 0,025  | 11 (7,5 — 16)   |
|     |                                                                                   | 0.10               | 1.9                | 0.000080       | 0.00013 | 0.00017 | 0.00026 | 0.00030 | 0.00034 | 0.00040 | 0.00050 | 0.00065 | 0.00075 | 0.00080 | 0.0010 | 35 (25 — 52)    |
| S11 | E                                                                                 | 0,1                | 1,9                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,025   | 0,032   | 0,036   | 0,04    | 0,05   | 110 (95 — 120)  |
|     |                                                                                   | 0.10               | 1.9                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0014  | 0.0016  | 0.0020 | 360 (311 — 390) |
| S12 | E                                                                                 | 0,1                | 1,9                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038  | 77 (60 — 90)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015 | 250 (190 — 290) |
| S13 | E                                                                                 | 0,1                | 1,9                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038  | 30 (20 — 40)    |
|     |                                                                                   | 0.10               | 1.9                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015 | 100 (65 — 130)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

### Cutting data – C5131 Side milling – Inch

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>     |                   |                   |                   |                  |                  |                  |                  |                 |                 |                 |                 |                 | v <sub>c</sub>                     |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|--------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                    |                    | 1/32               | 1/16              | 1/8               | 1/6               | 1/5              | 2/9              | 1/4              | 1/3              | 3/8             | 1/2             | 5/8             | 3/4             | 1               |                                    |
| P1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,095<br>0.0038 | 0,12<br>0.0048  | 150 (135 — 165)<br>490 (440 — 540) |
| P2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 58 (45 — 70)<br>190 (147 — 230)    |
| P3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 85 (70 — 95)<br>279 (246 — 312)    |
| P4  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 100 (90 — 110)<br>330 (295 — 360)  |
| P5  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 68 (50 — 75)<br>223 (165 — 245)    |
| P6  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 87 (77 — 100)<br>285 (250 — 330)   |
| P7  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 65 (55 — 75)<br>213 (180 — 245)    |
| P8  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 65 (55 — 75)<br>213 (165 — 245)    |
| P11 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 85 (70 — 95)<br>280 (230 — 310)    |
| P12 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00010  | 0,0065<br>0.00020 | 0,013<br>0.00040  | 0,016<br>0.00050  | 0,02<br>0.00060  | 0,022<br>0.00070 | 0,026<br>0.00080 | 0,032<br>0.0010  | 0,04<br>0.0012  | 0,05<br>0.0016  | 0,065<br>0.0020 | 0,08<br>0.0024  | 0,1<br>0.0032   | 55 (45 — 65)<br>180 (147 — 213)    |
| M1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,095<br>0.0038 | 0,12<br>0.0048  | 93 (83 — 100)<br>305 (270 — 360)   |
| M2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,095<br>0.0038 | 0,12<br>0.0048  | 60 (50 — 70)<br>200 (165 — 230)    |
| M3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,095<br>0.0038 | 0,12<br>0.0048  | 55 (45 — 65)<br>180 (147 — 213)    |
| M4  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,09<br>0.0036  | 0,1<br>0.0040   | 45 (35 — 55)<br>147 (115 — 180)    |
| M5  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0034<br>0.00013  | 0,007<br>0.00028  | 0,014<br>0.00055  | 0,017<br>0.00065  | 0,02<br>0.00080  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,034<br>0.0013  | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,08<br>0.0032  | 0,11<br>0.0044  | 35 (20 — 45)<br>114 (65 — 147)     |
| K1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 80 (70 — 90)<br>260 (230 — 290)    |
| K2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0044<br>0.00017  | 0,009<br>0.00036  | 0,018<br>0.00070  | 0,022<br>0.00085  | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,044<br>0.0017  | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,09<br>0.0036  | 0,11<br>0.0044  | 0,14<br>0.0055  | 87 (75 — 100)<br>285 (245 — 330)   |
| K3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 65 (55 — 75)<br>213 (180 — 245)    |
| K4  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 50 (35 — 65)<br>165 (115 — 213)    |
| K5  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 45 (30 — 55)<br>147 (100 — 180)    |
| K6  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 77 (65 — 85)<br>250 (210 — 280)    |
| K7  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 77 (60 — 90)<br>250 (200 — 290)    |
| S1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 50 (35 — 60)<br>165 (115 — 200)    |
| S2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,06<br>0.0024  | 0,08<br>0.0032  | 25 (15 — 35)<br>82 (50 — 115)      |
| S3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0017<br>0.000065 | 0,0034<br>0.00013 | 0,0065<br>0.00026 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,012<br>0.00048 | 0,013<br>0.00050 | 0,017<br>0.00065 | 0,02<br>0.00080 | 0,026<br>0.0010 | 0,034<br>0.0013 | 0,04<br>0.0016  | 0,055<br>0.0022 | 11 (7,5 — 16)<br>35 (25 — 52)      |
| S11 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 110 (95 — 120)<br>360 (311 — 390)  |
| S12 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,06<br>0.0024  | 0,08<br>0.0032  | 77 (60 — 90)<br>250 (190 — 290)    |
| S13 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,06<br>0.0024  | 0,08<br>0.0032  | 30 (20 — 40)<br>100 (65 — 130)     |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
Steel and cast iron  
Stainless steel and S-materials  
Non ferrous  
Hard  
Plastic and cfrip  
Graphite  
X-Heads  
Minimaster

## Cutting data – C5131 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |          |          |         |         |         |         |         |         |         |         |         | v <sub>c</sub>  |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|----------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------------|
|     |                                                                                   |                    | 1              | 1,5      | 2        | 3       | 3,5     | 4       | 5       | 6       | 8       | 9       | 10      | 12      |                 |
| P1  | E                                                                                 | 1                  | 0,0024         | 0,0034   | 0,0046   | 0,007   | 0,008   | 0,009   | 0,012   | 0,014   | 0,018   | 0,02    | 0,024   | 0,028   | 75 (50 — 85)    |
|     |                                                                                   | 1.0                | 0.000095       | 0.00013  | 0.00018  | 0.00028 | 0.00032 | 0.00036 | 0.00048 | 0.00055 | 0.00070 | 0.00080 | 0.00095 | 0.0011  | 245 (170 — 270) |
| P2  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 32 (20 — 40)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 100 (66 — 130)  |
| P3  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 45 (30 — 60)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 147 (98 — 196)  |
| P4  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 55 (40 — 65)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 180 (130 — 210) |
| P5  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 35 (20 — 45)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 115 (65 — 145)  |
| P6  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 45 (30 — 60)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 145 (100 — 195) |
| P7  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 35 (20 — 50)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 115 (65 — 165)  |
| P8  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 25 (15 — 35)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 80 (50 — 110)   |
| P11 | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 32 (20 — 42)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 105 (65 — 138)  |
| P12 | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 30 (20 — 40)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 100 (65 — 130)  |
| M1  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 42 (21 — 52)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 138 (69 — 170)  |
| M2  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 32 (20 — 42)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 105 (65 — 138)  |
| M3  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 30 (15 — 40)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 100 (50 — 130)  |
| M4  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 22 (10 — 35)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 72 (33 — 115)   |
| M5  | E                                                                                 | 1                  | 0,0013         | 0,002    | 0,0026   | 0,004   | 0,0046  | 0,005   | 0,0065  | 0,008   | 0,01    | 0,012   | 0,013   | 0,016   | 19 (16 — 30)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.000080 | 0.00010  | 0.00016 | 0.00018 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00048 | 0.00050 | 0.00065 | 62 (52 — 100)   |
| K1  | E                                                                                 | 1                  | 0,0024         | 0,0034   | 0,0046   | 0,007   | 0,008   | 0,009   | 0,012   | 0,014   | 0,018   | 0,02    | 0,024   | 0,028   | 30 (20 — 45)    |
|     |                                                                                   | 1.0                | 0.000095       | 0.00013  | 0.00018  | 0.00028 | 0.00032 | 0.00036 | 0.00048 | 0.00055 | 0.00070 | 0.00080 | 0.00095 | 0.0011  | 100 (65 — 147)  |
| K2  | E                                                                                 | 1                  | 0,0024         | 0,0034   | 0,0046   | 0,007   | 0,008   | 0,009   | 0,012   | 0,014   | 0,018   | 0,02    | 0,024   | 0,028   | 40 (30 — 50)    |
|     |                                                                                   | 1.0                | 0.000095       | 0.00013  | 0.00018  | 0.00028 | 0.00032 | 0.00036 | 0.00048 | 0.00055 | 0.00070 | 0.00080 | 0.00095 | 0.0011  | 130 (100 — 165) |
| K3  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 32 (26 — 45)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 105 (85 — 148)  |
| K4  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 22 (18 — 30)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 72 (60 — 100)   |
| K5  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 20 (15 — 30)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 65 (50 — 100)   |
| K6  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 35 (20 — 50)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 115 (65 — 165)  |
| K7  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 35 (20 — 50)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 115 (65 — 165)  |
| S1  | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 25 (18 — 30)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 80 (60 — 100)   |
| S2  | E                                                                                 | 1                  | 0,001          | 0,0015   | 0,002    | 0,003   | 0,0036  | 0,004   | 0,005   | 0,006   | 0,008   | 0,009   | 0,01    | 0,012   | 13 (9 — 18)     |
|     |                                                                                   | 1.0                | 0.000040       | 0.000060 | 0.000080 | 0.00012 | 0.00014 | 0.00016 | 0.00020 | 0.00024 | 0.00032 | 0.00036 | 0.00040 | 0.00048 | 62 (30 — 60)    |
| S3  | E                                                                                 | 1                  | 0,001          | 0,0015   | 0,002    | 0,003   | 0,0036  | 0,004   | 0,005   | 0,006   | 0,008   | 0,009   | 0,01    | 0,012   | 7,0 (5 — 12)    |
|     |                                                                                   | 1.0                | 0.000040       | 0.000060 | 0.000080 | 0.00012 | 0.00014 | 0.00016 | 0.00020 | 0.00024 | 0.00032 | 0.00036 | 0.00040 | 0.00048 | 23 (15 — 39)    |
| S11 | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 35 (25 — 40)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 114 (82 — 130)  |
| S12 | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 32 (22 — 40)    |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 105 (72 — 130)  |
| S13 | E                                                                                 | 1                  | 0,0017         | 0,0026   | 0,0034   | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 10 (8 — 15)     |
|     |                                                                                   | 1.0                | 0.000065       | 0.00010  | 0.00013  | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 33 (26 — 50)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

#### Cutting data – C5131 Slot milling – Inch

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>     |                    |                   |                   |                   |                   |                   |                  |                   |                  |                  |                  |                 | v <sub>c</sub>                  |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|-------------------|------------------|------------------|------------------|-----------------|---------------------------------|
|     |                                                                                   |                    | 1/32               | 1/16               | 1/8               | 1/6               | 1/5               | 2/9               | 1/4               | 1/3              | 3/8               | 1/2              | 5/8              | 3/4              | 1               |                                 |
| P1  | E                                                                                 | 1<br>1.0           | 0,0018<br>0.000070 | 0,0036<br>0.00014  | 0,0075<br>0.00030 | 0,009<br>0.00036  | 0,011<br>0.00044  | 0,013<br>0.00050  | 0,015<br>0.00060  | 0,018<br>0.00070 | 0,022<br>0.00085  | 0,03<br>0.0012   | 0,036<br>0.0014  | 0,044<br>0.0017  | 0,06<br>0.0024  | 75 (50 — 85)<br>245 (170 — 270) |
| P2  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 32 (20 — 40)<br>100 (66 — 130)  |
| P3  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 45 (30 — 60)<br>147 (98 — 196)  |
| P4  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 55 (40 — 65)<br>180 (130 — 210) |
| P5  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 35 (20 — 45)<br>115 (65 — 145)  |
| P6  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 45 (30 — 60)<br>145 (100 — 195) |
| P7  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 35 (20 — 50)<br>115 (65 — 165)  |
| P8  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 25 (15 — 35)<br>80 (50 — 110)   |
| P11 | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 32 (20 — 42)<br>105 (65 — 138)  |
| P12 | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 30 (20 — 40)<br>100 (65 — 130)  |
| M1  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 42 (21 — 52)<br>138 (69 — 170)  |
| M2  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 32 (20 — 42)<br>105 (65 — 138)  |
| M3  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 30 (15 — 40)<br>100 (50 — 130)  |
| M4  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 22 (10 — 35)<br>72 (33 — 115)   |
| M5  | E                                                                                 | 1<br>1.0           | 0,001<br>0.000040  | 0,002<br>0.000080  | 0,0042<br>0.00017 | 0,005<br>0.00020  | 0,006<br>0.00024  | 0,007<br>0.00028  | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,012<br>0.00048  | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,034<br>0.0013 | 19 (16 — 30)<br>62 (52 — 100)   |
| K1  | E                                                                                 | 1<br>1.0           | 0,0018<br>0.000070 | 0,0036<br>0.00014  | 0,0075<br>0.00030 | 0,009<br>0.00036  | 0,011<br>0.00044  | 0,013<br>0.00050  | 0,015<br>0.00060  | 0,018<br>0.00070 | 0,022<br>0.00085  | 0,03<br>0.0012   | 0,036<br>0.0014  | 0,044<br>0.0017  | 0,06<br>0.0024  | 30 (20 — 45)<br>100 (65 — 147)  |
| K2  | E                                                                                 | 1<br>1.0           | 0,0018<br>0.000070 | 0,0036<br>0.00014  | 0,0075<br>0.00030 | 0,009<br>0.00036  | 0,011<br>0.00044  | 0,013<br>0.00050  | 0,015<br>0.00060  | 0,018<br>0.00070 | 0,022<br>0.00085  | 0,03<br>0.0012   | 0,036<br>0.0014  | 0,044<br>0.0017  | 0,06<br>0.0024  | 40 (30 — 50)<br>130 (100 — 165) |
| K3  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 32 (26 — 45)<br>105 (85 — 148)  |
| K4  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 22 (18 — 30)<br>72 (60 — 100)   |
| K5  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 20 (15 — 30)<br>65 (50 — 100)   |
| K6  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 35 (20 — 50)<br>115 (65 — 165)  |
| K7  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 35 (20 — 50)<br>115 (65 — 165)  |
| S1  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 25 (18 — 30)<br>80 (60 — 100)   |
| S2  | E                                                                                 | 1<br>1.0           | 0,0008<br>0.000032 | 0,0016<br>0.000065 | 0,0032<br>0.00013 | 0,004<br>0.00016  | 0,0048<br>0.00019 | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032 | 0,0095<br>0.00038 | 0,013<br>0.00050 | 0,016<br>0.00065 | 0,019<br>0.00075 | 0,025<br>0.0010 | 13 (9 — 18)<br>62 (30 — 60)     |
| S3  | E                                                                                 | 1<br>1.0           | 0,0008<br>0.000032 | 0,0016<br>0.000065 | 0,0032<br>0.00013 | 0,004<br>0.00016  | 0,0048<br>0.00019 | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032 | 0,0095<br>0.00038 | 0,013<br>0.00050 | 0,016<br>0.00065 | 0,019<br>0.00075 | 0,025<br>0.0010 | 7,0 (5 — 12)<br>23 (15 — 39)    |
| S11 | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 35 (25 — 40)<br>114 (82 — 130)  |
| S12 | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 32 (22 — 40)<br>105 (72 — 130)  |
| S13 | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,0028<br>0.00011  | 0,0055<br>0.00022 | 0,0065<br>0.00026 | 0,008<br>0.00032  | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,014<br>0.00055 | 0,016<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,044<br>0.0017 | 10 (8 — 15)<br>33 (26 — 50)     |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

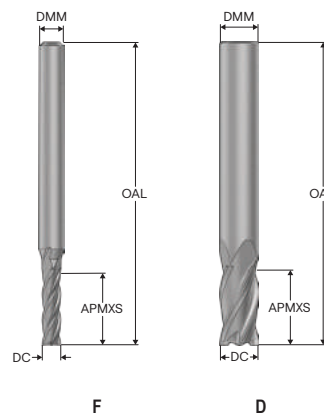
a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

|                                 |
|---------------------------------|
| Universal                       |
| Steel and cast iron             |
| Stainless steel and S-materials |
| Non ferrous                     |
| Hard                            |
| Plastic and cfrrp               |
| Graphite                        |
| X-Heads                         |
| Minimaster                      |

## C5141

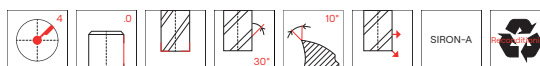
General purpose – Universal – Square – 4 Flutes – Cylindrical – Sharp



—Tolerances:

—DMM=h5

—DC= h10

—Reground possible if DC is  $\geq \phi 10$ 


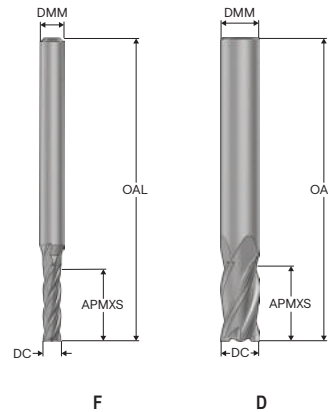
| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|-------|-------------|----------------|
| C5141-060D1S.0Z4 | SIRA  | 10268459    | 1            | D          | mm   | mm   | mm    | mm    | 4     | Cylindrical | ■              |
| C5141-020F2S.0Z4 | SIRA  | 10268450    | 2            | F          | 2,0  | 3,0  | 4,0   | 39,0  | 4     | Cylindrical | ■              |
| C5141-030D2S.0Z4 | SIRA  | 10268452    | 2            | D          | 3,0  | 3,0  | 6,0   | 38,0  | 4     | Cylindrical | ■              |
| C5141-040D2S.0Z4 | SIRA  | 10268455    | 2            | D          | 4,0  | 4,0  | 8,0   | 50,0  | 4     | Cylindrical | ■              |
| C5141-050F2S.0Z4 | SIRA  | 10268457    | 2            | F          | 5,0  | 6,0  | 10,0  | 57,0  | 4     | Cylindrical | ■              |
| C5141-060D2S.0Z4 | SIRA  | 10268460    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | 4     | Cylindrical | ■              |
| C5141-080D2S.0Z4 | SIRA  | 10268462    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | 4     | Cylindrical | ■              |
| C5141-080D3S.0Z4 | SIRA  | 10268463    | 2            | D          | 8,0  | 8,0  | 20,0  | 64,0  | 4     | Cylindrical | ■              |
| C5141-090F2S.0Z4 | SIRA  | 10268464    | 2            | F          | 9,0  | 10,0 | 22,0  | 73,0  | 4     | Cylindrical | ■              |
| C5141-100D2S.0Z4 | SIRA  | 10268465    | 2            | D          | 10,0 | 10,0 | 22,0  | 73,0  | 4     | Cylindrical | ■              |
| C5141-120D2S.0Z4 | SIRA  | 10268467    | 2            | D          | 12,0 | 12,0 | 25,0  | 74,0  | 4     | Cylindrical | ■              |
| C5141-160D2S.0Z4 | SIRA  | 10268469    | 2            | D          | 16,0 | 16,0 | 32,0  | 92,0  | 4     | Cylindrical | ■              |
| C5141-200D2S.0Z4 | SIRA  | 10268471    | 2            | D          | 20,0 | 20,0 | 35,0  | 104,0 | 4     | Cylindrical | ■              |
| C5141-015F3S.0Z4 | SIRA  | 10268449    | 3            | F          | 1,5  | 3,0  | 4,5   | 39,0  | 4     | Cylindrical | ■              |
| C5141-020F3S.0Z4 | SIRA  | 10268451    | 3            | F          | 2,0  | 3,0  | 6,3   | 39,0  | 4     | Cylindrical | ■              |
| C5141-035F3S.0Z4 | SIRA  | 10268454    | 3            | F          | 3,5  | 4,0  | 12,0  | 51,0  | 4     | Cylindrical | ■              |
| C5141-050F3S.0Z4 | SIRA  | 10268458    | 3            | F          | 5,0  | 6,0  | 16,0  | 51,0  | 4     | Cylindrical | ■              |
| C5141-060D3S.0Z4 | SIRA  | 10268461    | 3            | D          | 6,0  | 6,0  | 19,0  | 51,0  | 4     | Cylindrical | ■              |
| C5141-160D3S.0Z4 | SIRA  | 10268470    | 3            | D          | 16,0 | 16,0 | 50,0  | 115,0 | 4     | Cylindrical | ■              |
| C5141-200D3S.0Z4 | SIRA  | 10268472    | 3            | D          | 20,0 | 20,0 | 60,0  | 125,0 | 4     | Cylindrical | ■              |
| C5141-010F4S.0Z4 | SIRA  | 10268448    | 4            | F          | 1,0  | 3,0  | 4,0   | 39,0  | 4     | Cylindrical | ■              |
| C5141-030D4S.0Z4 | SIRA  | 10268453    | 4            | D          | 3,0  | 3,0  | 12,0  | 39,0  | 4     | Cylindrical | ■              |
| C5141-040D4S.0Z4 | SIRA  | 10268456    | 4            | D          | 4,0  | 4,0  | 14,0  | 51,0  | 4     | Cylindrical | ■              |
| C5141-100D4S.0Z4 | SIRA  | 10268466    | 4            | D          | 10,0 | 10,0 | 35,0  | 89,0  | 4     | Cylindrical | ■              |
| C5141-120D4S.0Z4 | SIRA  | 10268468    | 4            | D          | 12,0 | 12,0 | 50,0  | 100,0 | 4     | Cylindrical | ■              |

■ Stocked standard.

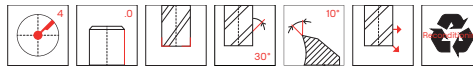


## C5141

General purpose – Universal – Square – 4 Flutes – Cylindrical – Sharp – Inch



- Tolerances:
- DMM =  $-.0001"/-0.0004"$
- DC  $\leq \varnothing 7/64" = \pm 0.0005"$
- DC  $> \varnothing 7/64" = +.000"/-0.002"$
- Regrind possible if DC is  $\geq \varnothing .375$



| Designation        | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|--------------------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |             |              |            | inch  | inch  | inch  | inch  |       |             |                |
| C5141-.375D1S.0Z4  | 10268208    | 1            | D          | 0.375 | 0.375 | 0.625 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.438D1S.0Z4  | 10268220    | 1            | D          | 0.438 | 0.438 | 0.625 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.500D1S.0Z4  | 10268228    | 1            | D          | 0.500 | 0.500 | 0.625 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.625D1S.0Z4  | 10268236    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.750D1S.0Z4  | 10268242    | 1            | D          | 0.750 | 0.750 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-1.000D1S.0Z4 | 10268249    | 1            | D          | 1.000 | 1.000 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.016F2S.0Z4  | 10268152    | 2            | F          | 0.016 | 0.125 | 0.031 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.047F2S.0Z4  | 10268155    | 2            | F          | 0.047 | 0.125 | 0.109 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.063F2S.0Z4  | 10268157    | 2            | F          | 0.063 | 0.125 | 0.125 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.078F2S.0Z4  | 10268161    | 2            | F          | 0.078 | 0.125 | 0.188 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.094F2S.0Z4  | 10268163    | 2            | F          | 0.094 | 0.125 | 0.188 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.125D2S.0Z4  | 10268168    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.156F2S.0Z4  | 10268175    | 2            | F          | 0.156 | 0.188 | 0.313 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.188D2S.0Z4  | 10268178    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.219F2S.0Z4  | 10268185    | 2            | F          | 0.219 | 0.250 | 0.438 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.250D2S.0Z4  | 10268188    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.313D2S.0Z4  | 10268198    | 2            | D          | 0.313 | 0.313 | 0.500 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.375D2S.0Z4  | 10268209    | 2            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.406F2S.0Z4  | 10268218    | 2            | F          | 0.406 | 0.438 | 1.000 | 2.750 | 4     | Cylindrical | ■              |
| C5141-.438D2S.0Z4  | 10268221    | 2            | D          | 0.438 | 0.438 | 1.000 | 2.750 | 4     | Cylindrical | ■              |
| C5141-.500D2S.0Z4  | 10268229    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.563D2S.0Z4  | 10268235    | 2            | D          | 0.563 | 0.563 | 1.125 | 3.500 | 4     | Cylindrical | ■              |
| C5141-.625D2S.0Z4  | 10268237    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 4     | Cylindrical | ■              |
| C5141-.688F2S.0Z4  | 10268241    | 2            | F          | 0.688 | 0.750 | 1.375 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.750D2S.0Z4  | 10268243    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.875D2S.0Z4  | 10268248    | 2            | D          | 0.875 | 0.875 | 1.500 | 4.000 | 4     | Cylindrical | ■              |
| C5141-1.000D2S.0Z4 | 10268250    | 2            | D          | 1.000 | 1.000 | 1.500 | 4.000 | 4     | Cylindrical | ■              |
| C5141-1.250D2S.0Z4 | 10268255    | 2            | D          | 1.250 | 1.250 | 2.000 | 4.500 | 4     | Cylindrical | ■              |
| C5141-.031F3S.0Z4  | 10268153    | 3            | F          | 0.031 | 0.125 | 0.078 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.047F3S.0Z4  | 10268156    | 3            | F          | 0.047 | 0.125 | 0.125 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.063F3S.0Z4  | 10268158    | 3            | F          | 0.063 | 0.125 | 0.188 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.078F3S.0Z4  | 10268162    | 3            | F          | 0.078 | 0.125 | 0.250 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.094F3S.0Z4  | 10268164    | 3            | F          | 0.094 | 0.125 | 0.281 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.109F3S.0Z4  | 10268167    | 3            | F          | 0.109 | 0.125 | 0.375 | 1.500 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

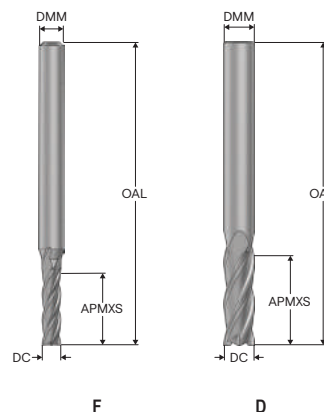
Graphite

X-Heads

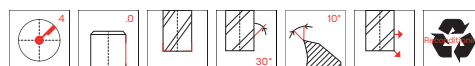
Minimaster

## C5141

General purpose – Universal – Square – 4 Flutes – Cylindrical – Sharp – Inch



—Tolerances:  
—DMM =  $\pm 0.001$ "/ $\pm 0.004$ "  
—DC  $\leq \varnothing 7/64$ " =  $\pm 0.0005$ "  
—DC  $> \varnothing 7/64$ " =  $\pm 0.001$ "/ $\pm 0.002$ "  
—Regrind possible if DC is  $\geq \varnothing 3/32$



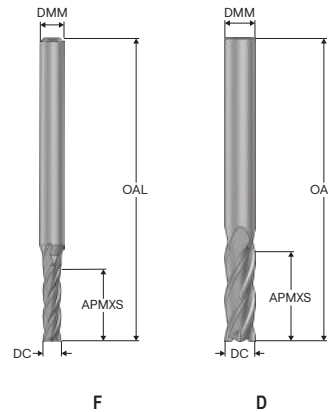
| Designation        | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|--------------------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |             |              |            | inch  | inch  | inch  | inch  |       |             |                |
| C5141-156F3S.0Z4   | 10268176    | 3            | F          | 0.156 | 0.188 | 0.500 | 2.000 | 4     | Cylindrical | ■              |
| C5141-188D3S.0Z4   | 10268179    | 3            | D          | 0.188 | 0.188 | 0.625 | 2.000 | 4     | Cylindrical | ■              |
| C5141-203F3S.0Z4   | 10268184    | 3            | F          | 0.203 | 0.250 | 0.625 | 2.500 | 4     | Cylindrical | ■              |
| C5141-219F3S.0Z4   | 10268186    | 3            | F          | 0.219 | 0.250 | 0.625 | 2.500 | 4     | Cylindrical | ■              |
| C5141-234F3S.0Z4   | 10268187    | 3            | F          | 0.234 | 0.250 | 0.750 | 2.500 | 4     | Cylindrical | ■              |
| C5141-250D3S.0Z4   | 10268189    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 4     | Cylindrical | ■              |
| C5141-281F3S.0Z4   | 10268196    | 3            | F          | 0.281 | 0.313 | 0.750 | 2.500 | 4     | Cylindrical | ■              |
| C5141-313D3S.0Z4   | 10268199    | 3            | D          | 0.313 | 0.313 | 0.813 | 2.500 | 4     | Cylindrical | ■              |
| C5141-344F3S.0Z4   | 10268206    | 3            | F          | 0.344 | 0.375 | 1.000 | 2.500 | 4     | Cylindrical | ■              |
| C5141-375D3S.0Z4   | 10268210    | 3            | D          | 0.375 | 0.375 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-438D3S.0Z4   | 10268222    | 3            | D          | 0.438 | 0.438 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-500D3S.0Z4   | 10268230    | 3            | D          | 0.500 | 0.500 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-625D3S.0Z4   | 10268238    | 3            | D          | 0.625 | 0.625 | 2.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-750D3S.0Z4   | 10268244    | 3            | D          | 0.750 | 0.750 | 2.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-1.000D3S.0Z4 | 10268251    | 3            | D          | 1.000 | 1.000 | 2.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-031F4S.0Z4   | 10268154    | 4            | F          | 0.031 | 0.125 | 0.094 | 1.500 | 4     | Cylindrical | ■              |
| C5141-063F4S.0Z4   | 10268159    | 4            | F          | 0.063 | 0.125 | 0.250 | 1.500 | 4     | Cylindrical | ■              |
| C5141-094F4S.0Z4   | 10268165    | 4            | F          | 0.094 | 0.125 | 0.375 | 1.500 | 4     | Cylindrical | ■              |
| C5141-125D4S.0Z4   | 10268169    | 4            | D          | 0.125 | 0.125 | 0.500 | 1.500 | 4     | Cylindrical | ■              |
| C5141-141F4S.0Z4   | 10268174    | 4            | F          | 0.141 | 0.188 | 0.500 | 2.000 | 4     | Cylindrical | ■              |
| C5141-172F4S.0Z4   | 10268177    | 4            | F          | 0.172 | 0.188 | 0.625 | 2.000 | 4     | Cylindrical | ■              |
| C5141-188D4S.0Z4   | 10268180    | 4            | D          | 0.188 | 0.188 | 0.750 | 2.500 | 4     | Cylindrical | ■              |
| C5141-250D4S.0Z4   | 10268190    | 4            | D          | 0.250 | 0.250 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-313D4S.0Z4   | 10268200    | 4            | D          | 0.313 | 0.313 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-375D4S.0Z4   | 10268211    | 4            | D          | 0.375 | 0.375 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-438D4S.0Z4   | 10268223    | 4            | D          | 0.438 | 0.438 | 1.500 | 6.000 | 4     | Cylindrical | ■              |
| C5141-500D4S.0Z4   | 10268231    | 4            | D          | 0.500 | 0.500 | 1.500 | 6.000 | 4     | Cylindrical | ■              |
| C5141-625D4S.0Z4   | 10268239    | 4            | D          | 0.625 | 0.625 | 2.250 | 5.000 | 4     | Cylindrical | ■              |
| C5141-750D4S.0Z4   | 10268245    | 4            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 4     | Cylindrical | ■              |
| C5141-1.000D4S.0Z4 | 10268252    | 4            | D          | 1.000 | 1.000 | 2.250 | 5.000 | 4     | Cylindrical | ■              |

■ Stocked standard.

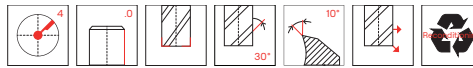


## C5141

General purpose – Universal – Square – 4 Flutes – Cylindrical – Sharp – Inch



- Tolerances:
- DMM =  $\pm 0.0001$ "/ $\pm 0.0004$ "
- DC  $\leq \varnothing 7/64$  =  $\pm 0.0005$ "
- DC  $> \varnothing 7/64$  =  $\pm 0.0007$ "/ $\pm 0.002$ "
- Regrind possible if DC is  $\geq \varnothing 3/8$



| Designation        | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|--------------------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |             |              |            | inch  | inch  | inch  | inch  |       |             |                |
| C5141-.125D5S.0Z4  | 10268170    | 5            | D          | 0.125 | 0.125 | 0.625 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.188D5S.0Z4  | 10268181    | 5            | D          | 0.188 | 0.188 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.250D5S.0Z4  | 10268191    | 5            | D          | 0.250 | 0.250 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.313D5S.0Z4  | 10268201    | 5            | D          | 0.313 | 0.313 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.375D5S.0Z4  | 10268212    | 5            | D          | 0.375 | 0.375 | 1.125 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.438D5S.0Z4  | 10268224    | 5            | D          | 0.438 | 0.438 | 2.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.500D5S.0Z4  | 10268232    | 5            | D          | 0.500 | 0.500 | 2.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.625D5S.0Z4  | 10268240    | 5            | D          | 0.625 | 0.625 | 3.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.750D5S.0Z4  | 10268246    | 5            | D          | 0.750 | 0.750 | 3.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-1.000D5S.0Z4 | 10268253    | 5            | D          | 1.000 | 1.000 | 3.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.125D6S.0Z4  | 10268171    | 6            | D          | 0.125 | 0.125 | 0.750 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.188D6S.0Z4  | 10268182    | 6            | D          | 0.188 | 0.188 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.250D6S.0Z4  | 10268192    | 6            | D          | 0.250 | 0.250 | 1.125 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.313D6S.0Z4  | 10268202    | 6            | D          | 0.313 | 0.313 | 1.125 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.375D6S.0Z4  | 10268213    | 6            | D          | 0.375 | 0.375 | 1.500 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.438D6S.0Z4  | 10268225    | 6            | D          | 0.438 | 0.438 | 2.000 | 4.500 | 4     | Cylindrical | ■              |
| C5141-.500D6S.0Z4  | 10268233    | 6            | D          | 0.500 | 0.500 | 2.000 | 4.500 | 4     | Cylindrical | ■              |
| C5141-.750D6S.0Z4  | 10268247    | 6            | D          | 0.750 | 0.750 | 4.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-1.000D6S.0Z4 | 10268254    | 6            | D          | 1.000 | 1.000 | 4.000 | 7.000 | 4     | Cylindrical | ■              |
| C5141-.188D7S.0Z4  | 10268183    | 7            | D          | 0.188 | 0.188 | 1.125 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.250D7S.0Z4  | 10268193    | 7            | D          | 0.250 | 0.250 | 1.500 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.313D7S.0Z4  | 10268203    | 7            | D          | 0.313 | 0.313 | 1.500 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.375D7S.0Z4  | 10268214    | 7            | D          | 0.375 | 0.375 | 1.750 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.438D7S.0Z4  | 10268226    | 7            | D          | 0.438 | 0.438 | 3.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.500D7S.0Z4  | 10268234    | 7            | D          | 0.500 | 0.500 | 3.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.063F8S.0Z4  | 10268160    | 8            | F          | 0.063 | 0.125 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.094F8S.0Z4  | 10268166    | 8            | F          | 0.094 | 0.125 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.125D8S.0Z4  | 10268172    | 8            | D          | 0.125 | 0.125 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.250D8S.0Z4  | 10268194    | 8            | D          | 0.250 | 0.250 | 1.500 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.313D8S.0Z4  | 10268204    | 8            | D          | 0.313 | 0.313 | 1.625 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.375D8S.0Z4  | 10268215    | 8            | D          | 0.375 | 0.375 | 2.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.125D9S.0Z4  | 10268173    | 9            | D          | 0.125 | 0.125 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.375D9S.0Z4  | 10268216    | 9            | D          | 0.375 | 0.375 | 3.000 | 6.000 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

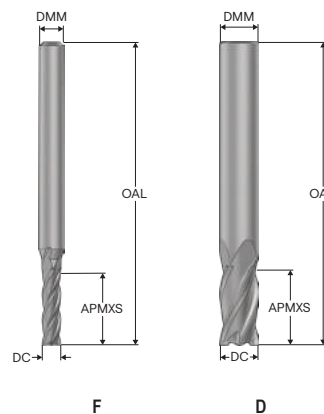
Graphite

X-Heads

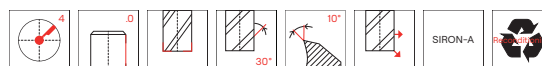
Minimaster

## C5141

General purpose – Universal – Square – 4 Flutes – Cylindrical – Sharp – Inch



- Tolerances:  
—DMM =  $\pm 0.001$ "/ $\pm 0.004$ "  
—DC  $\leq \varnothing 7/64$ " =  $\pm 0.0005$ "  
—DC  $> \varnothing 7/64$ " =  $\pm 0.0007$ "/ $\pm 0.002$ "  
—Regrind possible if DC is  $\geq \varnothing 0.375$

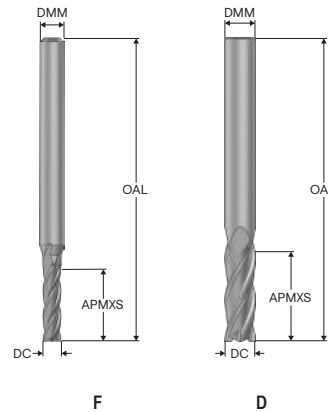


| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
| C5141-.375D1S.0Z4  | SIRA  | 10268312    | 1            | D          | 0.375 | 0.375 | 0.625 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.438D1S.0Z4  | SIRA  | 10268324    | 1            | D          | 0.438 | 0.438 | 0.625 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.500D1S.0Z4  | SIRA  | 10268332    | 1            | D          | 0.500 | 0.500 | 0.625 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.625D1S.0Z4  | SIRA  | 10268340    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.750D1S.0Z4  | SIRA  | 10268346    | 1            | D          | 0.750 | 0.750 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-1.000D1S.0Z4 | SIRA  | 10268353    | 1            | D          | 1.000 | 1.000 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.016F2S.0Z4  | SIRA  | 10268256    | 2            | F          | 0.016 | 0.125 | 0.031 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.047F2S.0Z4  | SIRA  | 10268259    | 2            | F          | 0.047 | 0.125 | 0.109 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.063F2S.0Z4  | SIRA  | 10268261    | 2            | F          | 0.063 | 0.125 | 0.125 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.078F2S.0Z4  | SIRA  | 10268265    | 2            | F          | 0.078 | 0.125 | 0.188 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.094F2S.0Z4  | SIRA  | 10268267    | 2            | F          | 0.094 | 0.125 | 0.188 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.125D2S.0Z4  | SIRA  | 10268272    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.156F2S.0Z4  | SIRA  | 10268279    | 2            | F          | 0.156 | 0.188 | 0.313 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.188D2S.0Z4  | SIRA  | 10268282    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.219F2S.0Z4  | SIRA  | 10268289    | 2            | F          | 0.219 | 0.250 | 0.438 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.250D2S.0Z4  | SIRA  | 10268292    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.313D2S.0Z4  | SIRA  | 10268302    | 2            | D          | 0.313 | 0.313 | 0.500 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.375D2S.0Z4  | SIRA  | 10268313    | 2            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.406F2S.0Z4  | SIRA  | 10268322    | 2            | F          | 0.406 | 0.438 | 1.000 | 2.750 | 4     | Cylindrical | ■              |
| C5141-.438D2S.0Z4  | SIRA  | 10268325    | 2            | D          | 0.438 | 0.438 | 1.000 | 2.750 | 4     | Cylindrical | ■              |
| C5141-.469F2S.0Z4  | SIRA  | 10268331    | 2            | F          | 0.469 | 0.500 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.500D2S.0Z4  | SIRA  | 10268333    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.563D2S.0Z4  | SIRA  | 10268339    | 2            | D          | 0.563 | 0.563 | 1.125 | 3.500 | 4     | Cylindrical | ■              |
| C5141-.625D2S.0Z4  | SIRA  | 10268341    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 4     | Cylindrical | ■              |
| C5141-.688F2S.0Z4  | SIRA  | 10268345    | 2            | F          | 0.688 | 0.750 | 1.375 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.750D2S.0Z4  | SIRA  | 10268347    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.875D2S.0Z4  | SIRA  | 10268352    | 2            | D          | 0.875 | 0.875 | 1.500 | 4.000 | 4     | Cylindrical | ■              |
| C5141-1.000D2S.0Z4 | SIRA  | 10268354    | 2            | D          | 1.000 | 1.000 | 1.500 | 4.000 | 4     | Cylindrical | ■              |
| C5141-1.250D2S.0Z4 | SIRA  | 10268359    | 2            | D          | 1.250 | 1.250 | 2.000 | 4.500 | 4     | Cylindrical | ■              |

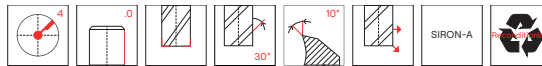
■ Stocked standard.

## C5141

General purpose – Universal – Square – 4 Flutes – Cylindrical – Sharp – Inch



- Tolerances:
- DMM =  $-0.0001''/-0.0004''$
- DC  $\leq \varnothing 7/64'' = \pm 0.0005''$
- DC  $> \varnothing 7/64'' = +0.000''/-0.002''$
- Regrind possible if DC is  $\geq \varnothing 3/8''$



| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |       |             |              |            | inch  | inch  | inch  | inch  |       |             |                |
| C5141-.031F3S.0Z4  | SIRA  | 10268257    | 3            | F          | 0.031 | 0.125 | 0.078 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.047F3S.0Z4  | SIRA  | 10268260    | 3            | F          | 0.047 | 0.125 | 0.125 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.063F3S.0Z4  | SIRA  | 10268262    | 3            | F          | 0.063 | 0.125 | 0.188 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.078F3S.0Z4  | SIRA  | 10268266    | 3            | F          | 0.078 | 0.125 | 0.250 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.094F3S.0Z4  | SIRA  | 10268268    | 3            | F          | 0.094 | 0.125 | 0.281 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.109F3S.0Z4  | SIRA  | 10268271    | 3            | F          | 0.109 | 0.125 | 0.375 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.156F3S.0Z4  | SIRA  | 10268280    | 3            | F          | 0.156 | 0.188 | 0.500 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.188D3S.0Z4  | SIRA  | 10268283    | 3            | D          | 0.188 | 0.188 | 0.625 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.203F3S.0Z4  | SIRA  | 10268288    | 3            | F          | 0.203 | 0.250 | 0.625 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.219F3S.0Z4  | SIRA  | 10268290    | 3            | F          | 0.219 | 0.250 | 0.625 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.234F3S.0Z4  | SIRA  | 10268291    | 3            | F          | 0.234 | 0.250 | 0.750 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.250D3S.0Z4  | SIRA  | 10268293    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.266F3S.0Z4  | SIRA  | 10268299    | 3            | F          | 0.266 | 0.313 | 0.750 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.281F3S.0Z4  | SIRA  | 10268300    | 3            | F          | 0.281 | 0.313 | 0.750 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.297F3S.0Z4  | SIRA  | 10268301    | 3            | F          | 0.297 | 0.313 | 0.813 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.313D3S.0Z4  | SIRA  | 10268303    | 3            | D          | 0.313 | 0.313 | 0.813 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.328F3S.0Z4  | SIRA  | 10268309    | 3            | F          | 0.328 | 0.375 | 1.000 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.344F3S.0Z4  | SIRA  | 10268310    | 3            | F          | 0.344 | 0.375 | 1.000 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.359F3S.0Z4  | SIRA  | 10268311    | 3            | F          | 0.359 | 0.375 | 1.000 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.375D3S.0Z4  | SIRA  | 10268314    | 3            | D          | 0.375 | 0.375 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.391F3S.0Z4  | SIRA  | 10268321    | 3            | F          | 0.391 | 0.438 | 1.000 | 2.750 | 4     | Cylindrical | ■              |
| C5141-.438D3S.0Z4  | SIRA  | 10268326    | 3            | D          | 0.438 | 0.438 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.500D3S.0Z4  | SIRA  | 10268334    | 3            | D          | 0.500 | 0.500 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.625D3S.0Z4  | SIRA  | 10268342    | 3            | D          | 0.625 | 0.625 | 2.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.750D3S.0Z4  | SIRA  | 10268348    | 3            | D          | 0.750 | 0.750 | 2.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-1.000D3S.0Z4 | SIRA  | 10268355    | 3            | D          | 1.000 | 1.000 | 2.000 | 6.000 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

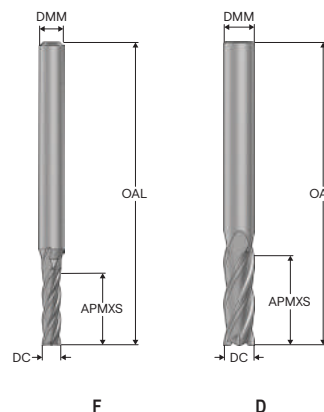
Graphite

X-Heads

Minimaster

## C5141

General purpose – Universal – Square – 4 Flutes – Cylindrical – Sharp – Inch



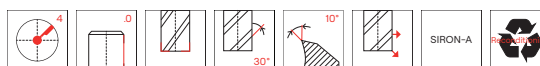
—Tolerances:

—DMM= -.0001"/-.0004"

—DC  $\leq \varnothing 7/64'' = \pm .0005''$

$$-DC \geq \emptyset 7/64 = \pm .0005$$

- Regrind possible if DC is  $\geq 0.375$

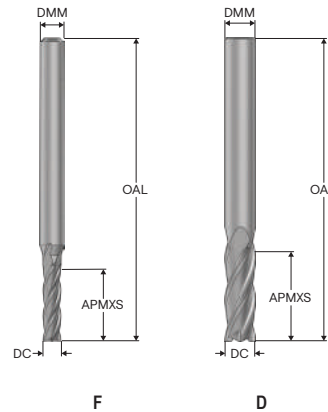


| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |       |             |              |            | inch  | inch  | inch  | inch  |       |             |                |
| C5141-.031F4S.0Z4  | SIRA  | 10268258    | 4            | F          | 0.031 | 0.125 | 0.094 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.063F4S.0Z4  | SIRA  | 10268263    | 4            | F          | 0.063 | 0.125 | 0.250 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.094F4S.0Z4  | SIRA  | 10268269    | 4            | F          | 0.094 | 0.125 | 0.375 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.125D4S.0Z4  | SIRA  | 10268273    | 4            | D          | 0.125 | 0.125 | 0.500 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.141F4S.0Z4  | SIRA  | 10268278    | 4            | F          | 0.141 | 0.188 | 0.500 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.172F4S.0Z4  | SIRA  | 10268281    | 4            | F          | 0.172 | 0.188 | 0.625 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.188D4S.0Z4  | SIRA  | 10268284    | 4            | D          | 0.188 | 0.188 | 0.750 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.250D4S.0Z4  | SIRA  | 10268294    | 4            | D          | 0.250 | 0.250 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.313D4S.0Z4  | SIRA  | 10268304    | 4            | D          | 0.313 | 0.313 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.375D4S.0Z4  | SIRA  | 10268315    | 4            | D          | 0.375 | 0.375 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.438D4S.0Z4  | SIRA  | 10268327    | 4            | D          | 0.438 | 0.438 | 1.500 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.500D4S.0Z4  | SIRA  | 10268335    | 4            | D          | 0.500 | 0.500 | 1.500 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.625D4S.0Z4  | SIRA  | 10268343    | 4            | D          | 0.625 | 0.625 | 2.250 | 5.000 | 4     | Cylindrical | ■              |
| C5141-.750D4S.0Z4  | SIRA  | 10268349    | 4            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 4     | Cylindrical | ■              |
| C5141-1.000D4S.0Z4 | SIRA  | 10268356    | 4            | D          | 1.000 | 1.000 | 2.250 | 5.000 | 4     | Cylindrical | ■              |
| C5141-.125D5S.0Z4  | SIRA  | 10268274    | 5            | D          | 0.125 | 0.125 | 0.625 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.188D5S.0Z4  | SIRA  | 10268285    | 5            | D          | 0.188 | 0.188 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.250D5S.0Z4  | SIRA  | 10268295    | 5            | D          | 0.250 | 0.250 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.313D5S.0Z4  | SIRA  | 10268305    | 5            | D          | 0.313 | 0.313 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.375D5S.0Z4  | SIRA  | 10268316    | 5            | D          | 0.375 | 0.375 | 1.125 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.438D5S.0Z4  | SIRA  | 10268328    | 5            | D          | 0.438 | 0.438 | 2.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.500D5S.0Z4  | SIRA  | 10268336    | 5            | D          | 0.500 | 0.500 | 2.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.625D5S.0Z4  | SIRA  | 10268344    | 5            | D          | 0.625 | 0.625 | 3.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.750D5S.0Z4  | SIRA  | 10268350    | 5            | D          | 0.750 | 0.750 | 3.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-1.000D5S.0Z4 | SIRA  | 10268357    | 5            | D          | 1.000 | 1.000 | 3.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-1.000D6S.0Z4 | SIRA  | 10268358    | 6            | D          | 1.000 | 1.000 | 4.000 | 7.000 | 4     | Cylindrical | ■              |

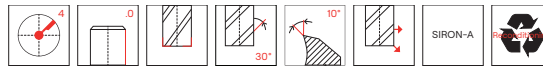
■ Stocked standard.

## C5141

General purpose – Universal – Square – 4 Flutes – Cylindrical – Sharp – Inch



- Tolerances:  
— DMM =  $-.0001"/-0.0004"$   
—  $DC \leq \varnothing 7/64" = \pm 0.0005"$   
—  $DC > \varnothing 7/64" = +0.000"/-0.002"$   
— Regrind possible if DC is  $\geq \varnothing .375$



| Designation       | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|-------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
|                   |       |             |              |            | inch  | inch  | inch  | inch  |       |             |                |
| C5141-.125D6S.0Z4 | SIRA  | 10268275    | 6            | D          | 0.125 | 0.125 | 0.750 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.188D6S.0Z4 | SIRA  | 10268286    | 6            | D          | 0.188 | 0.188 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.250D6S.0Z4 | SIRA  | 10268296    | 6            | D          | 0.250 | 0.250 | 1.125 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.313D6S.0Z4 | SIRA  | 10268306    | 6            | D          | 0.313 | 0.313 | 1.125 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.375D6S.0Z4 | SIRA  | 10268317    | 6            | D          | 0.375 | 0.375 | 1.500 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.438D6S.0Z4 | SIRA  | 10268329    | 6            | D          | 0.438 | 0.438 | 2.000 | 4.500 | 4     | Cylindrical | ■              |
| C5141-.500D6S.0Z4 | SIRA  | 10268337    | 6            | D          | 0.500 | 0.500 | 2.000 | 4.500 | 4     | Cylindrical | ■              |
| C5141-.750D6S.0Z4 | SIRA  | 10268351    | 6            | D          | 0.750 | 0.750 | 4.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.188D7S.0Z4 | SIRA  | 10268287    | 7            | D          | 0.188 | 0.188 | 1.125 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.250D7S.0Z4 | SIRA  | 10268297    | 7            | D          | 0.250 | 0.250 | 1.500 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.313D7S.0Z4 | SIRA  | 10268307    | 7            | D          | 0.313 | 0.313 | 1.500 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.375D7S.0Z4 | SIRA  | 10268318    | 7            | D          | 0.375 | 0.375 | 1.750 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.438D7S.0Z4 | SIRA  | 10268330    | 7            | D          | 0.438 | 0.438 | 3.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.500D7S.0Z4 | SIRA  | 10268338    | 7            | D          | 0.500 | 0.500 | 3.000 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.063F8S.0Z4 | SIRA  | 10268264    | 8            | F          | 0.063 | 0.125 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.094F8S.0Z4 | SIRA  | 10268270    | 8            | F          | 0.094 | 0.125 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.125D8S.0Z4 | SIRA  | 10268276    | 8            | D          | 0.125 | 0.125 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.250D8S.0Z4 | SIRA  | 10268298    | 8            | D          | 0.250 | 0.250 | 1.500 | 6.000 | 4     | Cylindrical | ■              |
| C5141-.313D8S.0Z4 | SIRA  | 10268308    | 8            | D          | 0.313 | 0.313 | 1.625 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.375D8S.0Z4 | SIRA  | 10268319    | 8            | D          | 0.375 | 0.375 | 2.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.125D9S.0Z4 | SIRA  | 10268277    | 9            | D          | 0.125 | 0.125 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| C5141-.375D9S.0Z4 | SIRA  | 10268320    | 9            | D          | 0.375 | 0.375 | 3.000 | 6.000 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

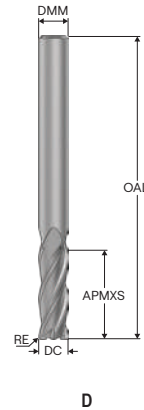
Graphite

X-Heads

Minimaster

## C5141

General purpose – Universal – Square – 4 Flutes – Cylindrical – Corner radius – Inch



D

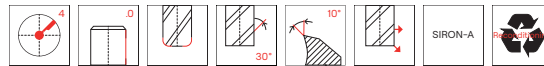
—Tolerances:

—DMM =  $\pm 0.001$ "/ $\pm 0.004$ "

—DC  $\leq \varnothing 7/64$ " =  $\pm 0.005$ "

—DC  $> \varnothing 7/64$ " =  $\pm 0.007$ "/ $\pm 0.002$ "

—RE =  $\pm 0.001$ "

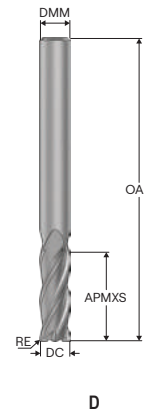
—Regrind possible if DC is  $\geq \varnothing 3/8$ "


| Designation           | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|-----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
|                       |       |             |              |            | inch  | inch  | inch  | inch  | inch  |       |             |                |
| C5141-438D2R015.0Z4   | SIRA  | 10268379    | 2            | D          | 0.438 | 0.438 | 1.000 | 2.750 | 0.015 | 4     | Cylindrical | ■              |
| C5141-438D2R030.0Z4   | SIRA  | 10268380    | 2            | D          | 0.438 | 0.438 | 1.000 | 2.750 | 0.030 | 4     | Cylindrical | ■              |
| C5141-438D2R060.0Z4   | SIRA  | 10268381    | 2            | D          | 0.438 | 0.438 | 1.000 | 2.750 | 0.060 | 4     | Cylindrical | ■              |
| C5141-438D2R125.0Z4   | SIRA  | 10268382    | 2            | D          | 0.438 | 0.438 | 1.000 | 2.750 | 0.125 | 4     | Cylindrical | ■              |
| C5141-500D2R015.0Z4   | SIRA  | 10268383    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.015 | 4     | Cylindrical | ■              |
| C5141-500D2R020.0Z4   | SIRA  | 10268384    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.020 | 4     | Cylindrical | ■              |
| C5141-500D2R030.0Z4   | SIRA  | 10268385    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.030 | 4     | Cylindrical | ■              |
| C5141-500D2R045.0Z4   | SIRA  | 10268386    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.045 | 4     | Cylindrical | ■              |
| C5141-500D2R060.0Z4   | SIRA  | 10268387    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.060 | 4     | Cylindrical | ■              |
| C5141-500D2R090.0Z4   | SIRA  | 10268388    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.090 | 4     | Cylindrical | ■              |
| C5141-500D2R125.0Z4   | SIRA  | 10268389    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.125 | 4     | Cylindrical | ■              |
| C5141-625D2R015.0Z4   | SIRA  | 10268390    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.015 | 4     | Cylindrical | ■              |
| C5141-625D2R030.0Z4   | SIRA  | 10268391    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.030 | 4     | Cylindrical | ■              |
| C5141-625D2R060.0Z4   | SIRA  | 10268392    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.060 | 4     | Cylindrical | ■              |
| C5141-625D2R125.0Z4   | SIRA  | 10268393    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.125 | 4     | Cylindrical | ■              |
| C5141-750D2R015.0Z4   | SIRA  | 10268394    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.015 | 4     | Cylindrical | ■              |
| C5141-750D2R020.0Z4   | SIRA  | 10268395    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.020 | 4     | Cylindrical | ■              |
| C5141-750D2R030.0Z4   | SIRA  | 10268396    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.030 | 4     | Cylindrical | ■              |
| C5141-750D2R045.0Z4   | SIRA  | 10268397    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.045 | 4     | Cylindrical | ■              |
| C5141-750D2R060.0Z4   | SIRA  | 10268398    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.060 | 4     | Cylindrical | ■              |
| C5141-750D2R090.0Z4   | SIRA  | 10268399    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.090 | 4     | Cylindrical | ■              |
| C5141-750D2R125.0Z4   | SIRA  | 10268400    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.125 | 4     | Cylindrical | ■              |
| C5141-750D2R190.0Z4   | SIRA  | 10268402    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.190 | 4     | Cylindrical | ■              |
| C5141-1.000D2R030.0Z4 | SIRA  | 10268405    | 2            | D          | 1.000 | 1.000 | 1.500 | 4.000 | 0.030 | 4     | Cylindrical | ■              |
| C5141-1.000D2R060.0Z4 | SIRA  | 10268406    | 2            | D          | 1.000 | 1.000 | 1.500 | 4.000 | 0.060 | 4     | Cylindrical | ■              |
| C5141-1.000D2R090.0Z4 | SIRA  | 10268407    | 2            | D          | 1.000 | 1.000 | 1.500 | 4.000 | 0.090 | 4     | Cylindrical | ■              |
| C5141-1.000D2R125.0Z4 | SIRA  | 10268408    | 2            | D          | 1.000 | 1.000 | 1.500 | 4.000 | 0.125 | 4     | Cylindrical | ■              |
| C5141-1.000D2R190.0Z4 | SIRA  | 10268409    | 2            | D          | 1.000 | 1.000 | 1.500 | 4.000 | 0.190 | 4     | Cylindrical | ■              |

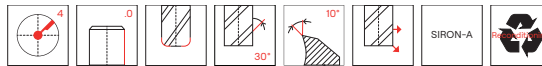
■ Stocked standard.

## C5141

General purpose – Universal – Square – 4 Flutes – Cylindrical – Corner radius – Inch



- Tolerances:
- DMM=  $-.0001"/-0.0004"$
- DC  $\leq \varnothing 7/64" = \pm 0.0005"$
- DC  $> \varnothing 7/64" = +0.000"/-0.002"$
- RE=  $\pm 0.001"$
- Regrind possible if DC is  $\geq \varnothing .375$



| Designation         | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|---------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
|                     |       |             |              |            | inch  | inch  | inch  | inch  | inch  |       |             |                |
| C5141-188D3R015.0Z4 | SIRA  | 10268363    | 3            | D          | 0.188 | 0.188 | 0.625 | 2.000 | 0.015 | 4     | Cylindrical | ■              |
| C5141-188D3R020.0Z4 | SIRA  | 10268364    | 3            | D          | 0.188 | 0.188 | 0.625 | 2.000 | 0.020 | 4     | Cylindrical | ■              |
| C5141-188D3R030.0Z4 | SIRA  | 10268365    | 3            | D          | 0.188 | 0.188 | 0.625 | 2.000 | 0.030 | 4     | Cylindrical | ■              |
| C5141-250D3R015.0Z4 | SIRA  | 10268366    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.015 | 4     | Cylindrical | ■              |
| C5141-250D3R020.0Z4 | SIRA  | 10268367    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.020 | 4     | Cylindrical | ■              |
| C5141-250D3R030.0Z4 | SIRA  | 10268368    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.030 | 4     | Cylindrical | ■              |
| C5141-250D3R045.0Z4 | SIRA  | 10268369    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.045 | 4     | Cylindrical | ■              |
| C5141-313D3R015.0Z4 | SIRA  | 10268370    | 3            | D          | 0.313 | 0.313 | 0.813 | 2.500 | 0.015 | 4     | Cylindrical | ■              |
| C5141-313D3R020.0Z4 | SIRA  | 10268371    | 3            | D          | 0.313 | 0.313 | 0.813 | 2.500 | 0.020 | 4     | Cylindrical | ■              |
| C5141-313D3R030.0Z4 | SIRA  | 10268372    | 3            | D          | 0.313 | 0.313 | 0.813 | 2.500 | 0.030 | 4     | Cylindrical | ■              |
| C5141-313D3R045.0Z4 | SIRA  | 10268373    | 3            | D          | 0.313 | 0.313 | 0.813 | 2.500 | 0.045 | 4     | Cylindrical | ■              |
| C5141-375D3R015.0Z4 | SIRA  | 10268374    | 3            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 0.015 | 4     | Cylindrical | ■              |
| C5141-375D3R020.0Z4 | SIRA  | 10268375    | 3            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 0.020 | 4     | Cylindrical | ■              |
| C5141-375D3R030.0Z4 | SIRA  | 10268376    | 3            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 0.030 | 4     | Cylindrical | ■              |
| C5141-375D3R045.0Z4 | SIRA  | 10268377    | 3            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 0.045 | 4     | Cylindrical | ■              |
| C5141-125D4R015.0Z4 | SIRA  | 10268360    | 4            | D          | 0.125 | 0.125 | 0.500 | 1.500 | 0.015 | 4     | Cylindrical | ■              |
| C5141-125D4R020.0Z4 | SIRA  | 10268361    | 4            | D          | 0.125 | 0.125 | 0.500 | 1.500 | 0.020 | 4     | Cylindrical | ■              |
| C5141-125D4R030.0Z4 | SIRA  | 10268362    | 4            | D          | 0.125 | 0.125 | 0.500 | 1.500 | 0.030 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

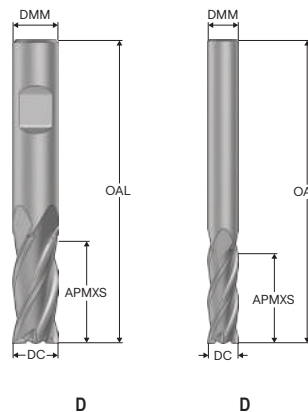
Graphite

X-Heads

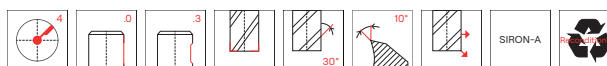
Minimaster

## C5141

General purpose – Universal – Square – 4 Flutes – Cylindrical/Weldon – Sharp – Inch



- Tolerances:  
 —DMM=+.0001"/-.0004"  
 —DC ≤ Ø7/64" = ±.0005"  
 —DC > Ø7/64" = +.001"/-.000"  
 —NC tolerance  
 —Reground possible if DC is ≥Ø.375



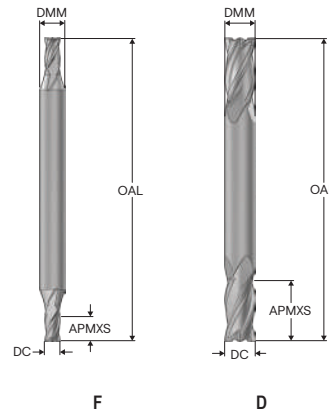
| Designation          | Grade | Item number | Length index | Tool shape | DC            | DMM           | APMXS         | OAL           | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|---------------|---------------|---------------|---------------|-------|-------------|----------------|
| C5141-.375D2S.3Z4NC  | SIRA  | 10268423    | 2            | D          | inch<br>0.375 | inch<br>0.375 | inch<br>0.875 | inch<br>2.500 | 4     | Weldon      | ■              |
| C5141-.500D2S.3Z4NC  | SIRA  | 10268424    | 2            | D          | 0.500         | 0.500         | 1.000         | 3.000         | 4     | Weldon      | ■              |
| C5141-.625D2S.3Z4NC  | SIRA  | 10268425    | 2            | D          | 0.625         | 0.625         | 1.250         | 3.500         | 4     | Weldon      | ■              |
| C5141-.750D2S.3Z4NC  | SIRA  | 10268426    | 2            | D          | 0.750         | 0.750         | 1.500         | 4.000         | 4     | Weldon      | ■              |
| C5141-1.000D2S.3Z4NC | SIRA  | 10268427    | 2            | D          | 1.000         | 1.000         | 1.500         | 4.000         | 4     | Weldon      | ■              |
| C5141-.250D3S.0Z4NC  | SIRA  | 10268421    | 3            | D          | 0.250         | 0.250         | 0.750         | 2.500         | 4     | Cylindrical | ■              |
| C5141-.313D3S.0Z4NC  | SIRA  | 10268422    | 3            | D          | 0.313         | 0.313         | 0.813         | 2.500         | 4     | Cylindrical | ■              |

■ Stocked standard.

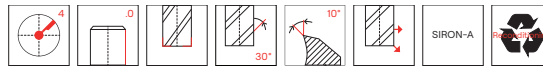


## C5141

General purpose – Universal – Square – 4 Flutes – Cylindrical – Sharp – Inch



- Tolerances:
- DMM =  $-.0001"/-.0004"$
- $DC \leq \varnothing 7/64" = \pm .0005"$
- $DC > \varnothing 7/64" = +.000"/-.002"$
- Double end
- Regrind possible if DC is  $\geq \varnothing .375$



| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |       |             |              |            | inch  | inch  | inch  | inch  |       |             |                |
| C5141-.438D1S.0Z4D | SIRA  | 10268446    | 1            | D          | 0.438 | 0.438 | 0.563 | 2.750 | 4     | Cylindrical | ■              |
| C5141-.500D1S.0Z4D | SIRA  | 10268447    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 4     | Cylindrical | ■              |
| C5141-.031F2S.0Z4D | SIRA  | 10268428    | 2            | F          | 0.031 | 0.125 | 0.063 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.047F2S.0Z4D | SIRA  | 10268429    | 2            | F          | 0.047 | 0.125 | 0.094 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.063F2S.0Z4D | SIRA  | 10268430    | 2            | F          | 0.063 | 0.125 | 0.125 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.078F2S.0Z4D | SIRA  | 10268431    | 2            | F          | 0.078 | 0.125 | 0.125 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.094F2S.0Z4D | SIRA  | 10268432    | 2            | F          | 0.094 | 0.125 | 0.188 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.109F2S.0Z4D | SIRA  | 10268433    | 2            | F          | 0.109 | 0.125 | 0.188 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.125D2S.0Z4D | SIRA  | 10268434    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 4     | Cylindrical | ■              |
| C5141-.141F2S.0Z4D | SIRA  | 10268435    | 2            | F          | 0.141 | 0.188 | 0.313 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.156F2S.0Z4D | SIRA  | 10268436    | 2            | F          | 0.156 | 0.188 | 0.313 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.172F2S.0Z4D | SIRA  | 10268437    | 2            | F          | 0.172 | 0.188 | 0.313 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.188D2S.0Z4D | SIRA  | 10268438    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 4     | Cylindrical | ■              |
| C5141-.203F2S.0Z4D | SIRA  | 10268439    | 2            | F          | 0.203 | 0.250 | 0.500 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.219F2S.0Z4D | SIRA  | 10268440    | 2            | F          | 0.219 | 0.250 | 0.500 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.234F2S.0Z4D | SIRA  | 10268441    | 2            | F          | 0.234 | 0.250 | 0.500 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.250D2S.0Z4D | SIRA  | 10268442    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.281F2S.0Z4D | SIRA  | 10268443    | 2            | F          | 0.281 | 0.313 | 0.500 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.313D2S.0Z4D | SIRA  | 10268444    | 2            | D          | 0.313 | 0.313 | 0.500 | 2.500 | 4     | Cylindrical | ■              |
| C5141-.375D2S.0Z4D | SIRA  | 10268445    | 2            | D          | 0.375 | 0.375 | 0.563 | 2.500 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

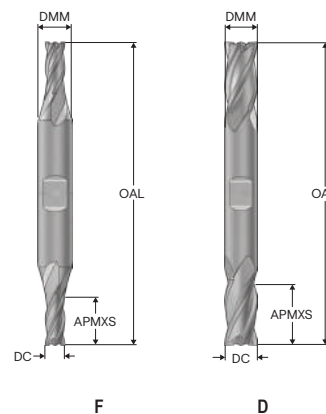
Graphite

X-Heads

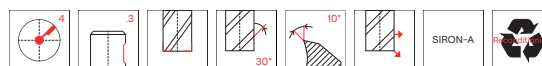
Minimaster

## C5141

General purpose – Universal – Square – 4 Flutes – Weldon – Sharp – Inch



- Tolerances:  
—DMM=+.0001"/-.0004"  
—DC ≤ Ø7/64" = ±.0005"  
—DC > Ø7/64" = +.000"/-.002"  
—Double end  
—Regrind possible if DC is ≥Ø.375



| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank  | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|--------|----------------|
|                    |       |             |              |            | inch  | inch  | inch  | inch  |       |        |                |
| C5141-.281F2S.3Z4D | SIRA  | 10268415    | 2            | F          | 0.281 | 0.375 | 0.688 | 3.500 | 4     | Weldon | ■              |
| C5141-.313F2S.3Z4D | SIRA  | 10268416    | 2            | F          | 0.313 | 0.375 | 0.750 | 3.500 | 4     | Weldon | ■              |
| C5141-.344F2S.3Z4D | SIRA  | 10268417    | 2            | F          | 0.344 | 0.375 | 0.750 | 3.500 | 4     | Weldon | ■              |
| C5141-.375D2S.3Z4D | SIRA  | 10268418    | 2            | D          | 0.375 | 0.375 | 0.750 | 3.500 | 4     | Weldon | ■              |
| C5141-.438F2S.3Z4D | SIRA  | 10268419    | 2            | F          | 0.438 | 0.500 | 0.875 | 4.000 | 4     | Weldon | ■              |
| C5141-.500D2S.3Z4D | SIRA  | 10268420    | 2            | D          | 0.500 | 0.500 | 1.000 | 4.000 | 4     | Weldon | ■              |
| C5141-.125F3S.3Z4D | SIRA  | 10268410    | 3            | F          | 0.125 | 0.375 | 0.375 | 3.063 | 4     | Weldon | ■              |
| C5141-.156F3S.3Z4D | SIRA  | 10268411    | 3            | F          | 0.156 | 0.375 | 0.438 | 3.125 | 4     | Weldon | ■              |
| C5141-.188F3S.3Z4D | SIRA  | 10268412    | 3            | F          | 0.188 | 0.375 | 0.500 | 3.250 | 4     | Weldon | ■              |
| C5141-.219F3S.3Z4D | SIRA  | 10268413    | 3            | F          | 0.219 | 0.375 | 0.563 | 3.375 | 4     | Weldon | ■              |
| C5141-.250F3S.3Z4D | SIRA  | 10268414    | 3            | F          | 0.250 | 0.375 | 0.625 | 3.375 | 4     | Weldon | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

### Cutting data – C5141 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                   |                   |                   |                   |                  |                  |                  |                  |                 |                 |                 |                 | v <sub>c</sub>                     |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                    |                    | 1                 | 1,5               | 2                 | 3                 | 3,5               | 4                 | 5                | 6                | 8                | 9                | 10              | 12              | 16              | 20              |                                    |
| P1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0048<br>0.00019 | 0,0075<br>0.00030 | 0,01<br>0.00040   | 0,015<br>0.00060  | 0,017<br>0.00065  | 0,02<br>0.00080   | 0,025<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,044<br>0.0017  | 0,048<br>0.0019 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,1<br>0.0040   | 150 (135 — 165)<br>490 (440 — 540) |
| P2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 58 (45 — 70)<br>190 (147 — 230)    |
| P3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 85 (70 — 95)<br>279 (246 — 312)    |
| P4  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 100 (90 — 110)<br>330 (295 — 360)  |
| P5  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 68 (50 — 75)<br>223 (165 — 245)    |
| P6  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 87 (77 — 100)<br>285 (250 — 330)   |
| P7  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 65 (55 — 75)<br>213 (180 — 245)    |
| P8  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 65 (55 — 75)<br>213 (165 — 245)    |
| P11 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 85 (70 — 95)<br>280 (230 — 310)    |
| P12 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013 | 0,0048<br>0.00019 | 0,0065<br>0.00026 | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,013<br>0.00050  | 0,016<br>0.00065 | 0,019<br>0.00075 | 0,026<br>0.0010  | 0,028<br>0.0011  | 0,032<br>0.0013 | 0,038<br>0.0015 | 0,05<br>0.0020  | 0,065<br>0.0026 | 55 (45 — 65)<br>180 (147 — 213)    |
| M1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0048<br>0.00019 | 0,0075<br>0.00030 | 0,01<br>0.00040   | 0,015<br>0.00060  | 0,017<br>0.00065  | 0,02<br>0.00080   | 0,025<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,044<br>0.0017  | 0,048<br>0.0019 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,1<br>0.0040   | 93 (83 — 100)<br>305 (270 — 360)   |
| M2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0048<br>0.00019 | 0,0075<br>0.00030 | 0,01<br>0.00040   | 0,015<br>0.00060  | 0,017<br>0.00065  | 0,02<br>0.00080   | 0,025<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,044<br>0.0017  | 0,048<br>0.0019 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,1<br>0.0040   | 60 (50 — 70)<br>200 (165 — 230)    |
| M3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0048<br>0.00019 | 0,0075<br>0.00030 | 0,01<br>0.00040   | 0,015<br>0.00060  | 0,017<br>0.00065  | 0,02<br>0.00080   | 0,025<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,044<br>0.0017  | 0,048<br>0.0019 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,1<br>0.0040   | 55 (45 — 65)<br>180 (147 — 213)    |
| M4  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0048<br>0.00019 | 0,0075<br>0.00030 | 0,01<br>0.00040   | 0,015<br>0.00060  | 0,017<br>0.00065  | 0,02<br>0.00080   | 0,025<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,044<br>0.0017  | 0,048<br>0.0019 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,09<br>0.0036  | 45 (35 — 55)<br>147 (115 — 180)    |
| M5  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0044<br>0.00017 | 0,0065<br>0.00026 | 0,0085<br>0.00034 | 0,013<br>0.00050  | 0,015<br>0.00060  | 0,017<br>0.00065  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,034<br>0.0013  | 0,038<br>0.0015  | 0,042<br>0.0017 | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0034 | 35 (20 — 45)<br>114 (65 — 147)     |
| K1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 80 (70 — 90)<br>260 (230 — 290)    |
| K2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0055<br>0.00022 | 0,0085<br>0.00034 | 0,011<br>0.00044  | 0,017<br>0.00065  | 0,02<br>0.00080   | 0,022<br>0.00085  | 0,028<br>0.0011  | 0,034<br>0.0013  | 0,044<br>0.0017  | 0,05<br>0.0020   | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,09<br>0.0036  | 0,11<br>0.0044  | 87 (75 — 100)<br>285 (245 — 330)   |
| K3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 65 (55 — 75)<br>213 (180 — 245)    |
| K4  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 50 (35 — 65)<br>165 (115 — 213)    |
| K5  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 45 (30 — 55)<br>147 (100 — 180)    |
| K6  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 77 (65 — 85)<br>250 (210 — 280)    |
| K7  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 77 (60 — 90)<br>250 (200 — 290)    |
| S1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 50 (35 — 60)<br>165 (115 — 200)    |
| S2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013 | 0,0048<br>0.00019 | 0,0065<br>0.00026 | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,013<br>0.00050  | 0,016<br>0.00065 | 0,019<br>0.00075 | 0,026<br>0.0010  | 0,028<br>0.0011  | 0,032<br>0.0013 | 0,038<br>0.0015 | 0,05<br>0.0020  | 0,065<br>0.0026 | 25 (15 — 35)<br>82 (50 — 115)      |
| S3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,002<br>0.000080 | 0,0032<br>0.00013 | 0,0042<br>0.00017 | 0,0065<br>0.00026 | 0,0075<br>0.00030 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,013<br>0.00050 | 0,017<br>0.00065 | 0,019<br>0.00075 | 0,02<br>0.00080 | 0,025<br>0.0010 | 0,034<br>0.0013 | 0,042<br>0.0017 | 11 (7,5 — 16)<br>35 (25 — 52)      |
| S11 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,004<br>0.00016  | 0,006<br>0.00024  | 0,008<br>0.00032  | 0,012<br>0.00048  | 0,014<br>0.00055  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 110 (95 — 120)<br>360 (311 — 390)  |
| S12 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013 | 0,0048<br>0.00019 | 0,0065<br>0.00026 | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,013<br>0.00050  | 0,016<br>0.00065 | 0,019<br>0.00075 | 0,026<br>0.0010  | 0,028<br>0.0011  | 0,032<br>0.0013 | 0,038<br>0.0015 | 0,05<br>0.0020  | 0,065<br>0.0026 | 77 (60 — 90)<br>250 (190 — 290)    |
| S13 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013 | 0,0048<br>0.00019 | 0,0065<br>0.00026 | 0,0095<br>0.00038 | 0,011<br>0.00044  | 0,013<br>0.00050  | 0,016<br>0.00065 | 0,019<br>0.00075 | 0,026<br>0.0010  | 0,028<br>0.0011  | 0,032<br>0.0013 | 0,038<br>0.0015 | 0,05<br>0.0020  | 0,065<br>0.0026 | 30 (20 — 40)<br>100 (65 — 130)     |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
Steel and cast iron  
Stainless steel and S-materials  
Non ferrous  
Hard  
Plastic and cfcp  
Graphite  
X-Heads  
Minimaster

## Cutting data – C5141 Side milling – Inch

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |          |         |         |         |         |         |         |         |         |         |         |        |        | v <sub>c</sub>  |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|-----------------|
|     |                                                                                   |                    | 1/32           | 1/16     | 1/8     | 1/6     | 1/5     | 2/9     | 1/4     | 1/3     | 3/8     | 1/2     | 5/8     | 3/4     | 1      | 1 1/4  |                 |
| P1  | E                                                                                 | 1                  | 0,0018         | 0,0036   | 0,0075  | 0,009   | 0,011   | 0,013   | 0,015   | 0,018   | 0,022   | 0,03    | 0,036   | 0,044   | 0,06   | 0,075  | 150 (135 — 165) |
|     |                                                                                   | 1.0                | 0.000070       | 0.00014  | 0.00030 | 0.00036 | 0.00044 | 0.00050 | 0.00060 | 0.00070 | 0.00085 | 0.0012  | 0.0014  | 0.0017  | 0.0024 | 0.0030 | 490 (440 — 540) |
| P2  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 58 (45 — 70)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 190 (147 — 230) |
| P3  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 85 (70 — 95)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 279 (246 — 312) |
| P4  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 100 (90 — 110)  |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 330 (295 — 360) |
| P5  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 68 (50 — 75)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 223 (165 — 245) |
| P6  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 87 (77 — 100)   |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 285 (250 — 330) |
| P7  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 65 (55 — 75)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 213 (180 — 245) |
| P8  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 65 (50 — 75)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 213 (165 — 245) |
| P11 | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 85 (70 — 95)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 280 (230 — 310) |
| P12 | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 55 (45 — 65)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 180 (147 — 213) |
| M1  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 93 (83 — 100)   |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 305 (270 — 360) |
| M2  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 60 (50 — 70)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 200 (165 — 230) |
| M3  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 55 (45 — 65)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 180 (147 — 213) |
| M4  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 45 (35 — 55)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 147 (115 — 180) |
| M5  | E                                                                                 | 1                  | 0,001          | 0,002    | 0,0042  | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,012   | 0,017   | 0,02    | 0,025   | 0,034  | 0,042  | 35 (20 — 45)    |
|     |                                                                                   | 1.0                | 0.000040       | 0.000080 | 0.00017 | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00048 | 0.00065 | 0.00080 | 0.0010  | 0.0013 | 0.0017 | 114 (65 — 147)  |
| K1  | E                                                                                 | 1                  | 0,0018         | 0,0036   | 0,0075  | 0,009   | 0,011   | 0,013   | 0,015   | 0,018   | 0,022   | 0,03    | 0,036   | 0,044   | 0,06   | 0,075  | 80 (70 — 90)    |
|     |                                                                                   | 1.0                | 0.000070       | 0.00014  | 0.00030 | 0.00036 | 0.00044 | 0.00050 | 0.00060 | 0.00070 | 0.00085 | 0.0012  | 0.0014  | 0.0017  | 0.0024 | 0.0030 | 260 (230 — 290) |
| K2  | E                                                                                 | 1                  | 0,0018         | 0,0036   | 0,0075  | 0,009   | 0,011   | 0,013   | 0,015   | 0,018   | 0,022   | 0,03    | 0,036   | 0,044   | 0,06   | 0,075  | 87 (75 — 100)   |
|     |                                                                                   | 1.0                | 0.000070       | 0.00014  | 0.00030 | 0.00036 | 0.00044 | 0.00050 | 0.00060 | 0.00070 | 0.00085 | 0.0012  | 0.0014  | 0.0017  | 0.0024 | 0.0030 | 285 (245 — 330) |
| K3  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 65 (55 — 75)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 213 (180 — 245) |
| K4  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 50 (35 — 65)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 165 (115 — 213) |
| K5  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 45 (30 — 55)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 147 (100 — 180) |
| K6  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 77 (65 — 85)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 250 (210 — 280) |
| K7  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 77 (60 — 90)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 250 (200 — 290) |
| S1  | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 50 (35 — 60)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 165 (115 — 200) |
| S2  | E                                                                                 | 1                  | 0,0008         | 0,0016   | 0,0032  | 0,004   | 0,0048  | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,013   | 0,016   | 0,019   | 0,025  | 0,032  | 25 (15 — 35)    |
|     |                                                                                   | 1.0                | 0.000032       | 0.000065 | 0.00013 | 0.00016 | 0.00019 | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00050 | 0.00065 | 0.00075 | 0.0010 | 0.0013 | 82 (50 — 115)   |
| S3  | E                                                                                 | 1                  | 0,0008         | 0,0016   | 0,0032  | 0,004   | 0,0048  | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,013   | 0,016   | 0,019   | 0,025  | 0,032  | 11 (7,5 — 16)   |
|     |                                                                                   | 1.0                | 0.000032       | 0.000065 | 0.00013 | 0.00016 | 0.00019 | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00050 | 0.00065 | 0.00075 | 0.0010 | 0.0013 | 35 (25 — 52)    |
| S11 | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 110 (95 — 120)  |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 360 (311 — 390) |
| S12 | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 77 (60 — 90)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 250 (190 — 290) |
| S13 | E                                                                                 | 1                  | 0,0013         | 0,0028   | 0,0055  | 0,0065  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,026   | 0,032   | 0,044  | 0,055  | 30 (20 — 40)    |
|     |                                                                                   | 1.0                | 0.000050       | 0.00011  | 0.00022 | 0.00026 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 100 (65 — 130)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

### Cutting data – C5141 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>     |                    |                   |                  |                   |                  |                   |                  |                  |                  |                  |                  |                  |                 | v <sub>c</sub>                  |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|--------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------|---------------------------------|
|     |                                                                                   |                    | 1                  | 1,5                | 2                 | 3                | 3,5               | 4                | 5                 | 6                | 8                | 9                | 10               | 12               | 16               | 20              |                                 |
| P1  | E                                                                                 | 1<br>1.0           | 0,0024<br>0.000095 | 0,0034<br>0.00013  | 0,0046<br>0.00018 | 0,007<br>0.00028 | 0,008<br>0.00032  | 0,009<br>0.00036 | 0,012<br>0.00048  | 0,014<br>0.00055 | 0,018<br>0.00070 | 0,02<br>0.00080  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,036<br>0.0014  | 0,046<br>0.0018 | 75 (50 — 85)<br>245 (170 — 270) |
| P2  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 32 (20 — 40)<br>100 (66 — 130)  |
| P3  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 45 (30 — 60)<br>147 (98 — 196)  |
| P4  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 55 (40 — 65)<br>180 (130 — 210) |
| P5  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 35 (20 — 45)<br>115 (65 — 145)  |
| P6  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 45 (30 — 60)<br>145 (100 — 195) |
| P7  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 35 (20 — 50)<br>115 (65 — 165)  |
| P8  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 25 (15 — 35)<br>80 (50 — 110)   |
| P11 | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 32 (20 — 42)<br>105 (65 — 138)  |
| P12 | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 30 (20 — 40)<br>100 (65 — 130)  |
| M1  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 42 (21 — 52)<br>138 (69 — 170)  |
| M2  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 32 (20 — 42)<br>105 (65 — 138)  |
| M3  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 30 (15 — 40)<br>100 (50 — 130)  |
| M4  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 22 (10 — 35)<br>72 (33 — 115)   |
| M5  | E                                                                                 | 1<br>1.0           | 0,0013<br>0.000050 | 0,002<br>0.000080  | 0,0026<br>0.00010 | 0,004<br>0.00016 | 0,0046<br>0.00018 | 0,005<br>0.00020 | 0,0065<br>0.00026 | 0,008<br>0.00032 | 0,01<br>0.00040  | 0,012<br>0.00048 | 0,013<br>0.00050 | 0,016<br>0.00065 | 0,02<br>0.00080  | 0,026<br>0.0010 | 19 (16 — 30)<br>62 (52 — 100)   |
| K1  | E                                                                                 | 1<br>1.0           | 0,0024<br>0.000095 | 0,0034<br>0.00013  | 0,0046<br>0.00018 | 0,007<br>0.00028 | 0,008<br>0.00032  | 0,009<br>0.00036 | 0,012<br>0.00048  | 0,014<br>0.00055 | 0,018<br>0.00070 | 0,02<br>0.00080  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,036<br>0.0014  | 0,046<br>0.0018 | 30 (20 — 45)<br>100 (65 — 147)  |
| K2  | E                                                                                 | 1<br>1.0           | 0,0024<br>0.000095 | 0,0034<br>0.00013  | 0,0046<br>0.00018 | 0,007<br>0.00028 | 0,008<br>0.00032  | 0,009<br>0.00036 | 0,012<br>0.00048  | 0,014<br>0.00055 | 0,018<br>0.00070 | 0,02<br>0.00080  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,036<br>0.0014  | 0,046<br>0.0018 | 40 (30 — 50)<br>130 (100 — 165) |
| K3  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 32 (26 — 45)<br>105 (85 — 148)  |
| K4  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 22 (18 — 30)<br>72 (60 — 100)   |
| K5  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 20 (15 — 30)<br>65 (50 — 100)   |
| K6  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 35 (20 — 50)<br>115 (65 — 165)  |
| K7  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 35 (20 — 50)<br>115 (65 — 165)  |
| S1  | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 25 (18 — 30)<br>80 (60 — 100)   |
| S2  | E                                                                                 | 1<br>1.0           | 0,001<br>0.000040  | 0,0015<br>0.000060 | 0,002<br>0.000080 | 0,003<br>0.00012 | 0,0036<br>0.00014 | 0,004<br>0.00016 | 0,005<br>0.00020  | 0,006<br>0.00024 | 0,008<br>0.00032 | 0,009<br>0.00036 | 0,01<br>0.00040  | 0,012<br>0.00048 | 0,016<br>0.00065 | 0,02<br>0.00080 | 13 (9 — 18)<br>62 (30 — 60)     |
| S3  | E                                                                                 | 1<br>1.0           | 0,001<br>0.000040  | 0,0015<br>0.000060 | 0,002<br>0.000080 | 0,003<br>0.00012 | 0,0036<br>0.00014 | 0,004<br>0.00016 | 0,005<br>0.00020  | 0,006<br>0.00024 | 0,008<br>0.00032 | 0,009<br>0.00036 | 0,01<br>0.00040  | 0,012<br>0.00048 | 0,016<br>0.00065 | 0,02<br>0.00080 | 7,0 (5 — 12)<br>23 (15 — 39)    |
| S11 | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 35 (25 — 40)<br>114 (82 — 130)  |
| S12 | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 32 (22 — 40)<br>105 (72 — 130)  |
| S13 | E                                                                                 | 1<br>1.0           | 0,0017<br>0.000065 | 0,0026<br>0.00010  | 0,0034<br>0.00013 | 0,005<br>0.00020 | 0,006<br>0.00024  | 0,007<br>0.00028 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,014<br>0.00055 | 0,015<br>0.00060 | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,028<br>0.0011  | 0,034<br>0.0013 | 10 (8 — 15)<br>33 (26 — 50)     |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
Steel and cast iron  
Stainless steel and S-materials  
Non ferrous  
Hard  
Plastic and cfrip  
Graphite  
X-Heads  
Minimaster

## Cutting data – C5141 Slot milling – Inch

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>     |                   |                   |                   |                  |                  |                  |                  |                 |                 |                 |                 |                 |                 |                             | v <sub>c</sub> |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|--------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------------|----------------|
|     |                                                                                   |                    |                    | 1/32               | 1/16              | 1/8               | 1/6               | 1/5              | 2/9              | 1/4              | 1/3              | 3/8             | 1/2             | 5/8             | 3/4             | 1               | 1 1/4           |                             |                |
| P1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,16<br>0.0065  | 75 (50—85)<br>245 (170—270) |                |
|     |                                                                                   | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 32 (20—40)<br>100 (66—130)  |                |
| P3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 45 (30—60)<br>147 (98—196)  |                |
| P4  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 55 (40—65)<br>180 (130—210) |                |
| P5  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 35 (20—45)<br>115 (65—145)  |                |
| P6  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 45 (30—60)<br>145 (180—195) |                |
| P7  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 35 (20—50)<br>115 (65—165)  |                |
| P8  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 25 (15—35)<br>80 (50—110)   |                |
| P11 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 32 (20—42)<br>105 (65—138)  |                |
| P12 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,1<br>0.0040   | 30 (20—40)<br>100 (65—130)  |                |
| M1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,16<br>0.0065  | 42 (21—52)<br>138 (69—170)  |                |
| M2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,16<br>0.0065  | 32 (20—42)<br>105 (65—138)  |                |
| M3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,13<br>0.0050  | 30 (15—40)<br>100 (50—130)  |                |
| M4  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0038<br>0.00015  | 0,008<br>0.00032  | 0,016<br>0.00065  | 0,019<br>0.00075  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,046<br>0.0018 | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,09<br>0.0036  | 0,1<br>0.0040   | 0,11<br>0.0044  | 22 (10—35)<br>72 (33—115)   |                |
| M5  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0034<br>0.00013  | 0,007<br>0.00028  | 0,014<br>0.00055  | 0,017<br>0.00065  | 0,02<br>0.00080  | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,034<br>0.0013  | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,08<br>0.0032  | 0,11<br>0.0044  | 0,14<br>0.0055  | 19 (16—30)<br>62 (52—100)   |                |
| K1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 30 (20—45)<br>100 (65—147)  |                |
| K2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0044<br>0.00017  | 0,009<br>0.00036  | 0,018<br>0.00070  | 0,022<br>0.00085  | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,044<br>0.0017  | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,09<br>0.0036  | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,18<br>0.0070  | 40 (30—50)<br>130 (100—165) |                |
| K3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 32 (26—45)<br>105 (85—148)  |                |
| K4  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 22 (18—30)<br>72 (60—100)   |                |
| K5  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 20 (15—30)<br>65 (50—100)   |                |
| K6  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 35 (20—50)<br>115 (65—165)  |                |
| K7  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 35 (20—50)<br>115 (65—165)  |                |
| S1  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 25 (18—30)<br>80 (60—100)   |                |
| S2  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,1<br>0.0040   | 13 (9—18)<br>62 (30—60)     |                |
| S3  | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0017<br>0.000065 | 0,0034<br>0.00013 | 0,0065<br>0.00026 | 0,0085<br>0.00034 | 0,01<br>0.00040  | 0,012<br>0.00048 | 0,013<br>0.00050 | 0,017<br>0.00065 | 0,02<br>0.00080 | 0,026<br>0.0010 | 0,034<br>0.0013 | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,065<br>0.0026 | 7,0 (5—12)<br>23 (15—39)    |                |
| S11 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065  | 0,02<br>0.00080  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,13<br>0.0050  | 35 (25—40)<br>114 (82—130)  |                |
| S12 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,1<br>0.0040   | 32 (22—40)<br>105 (72—130)  |                |
| S13 | E                                                                                 | 0,1<br>0.10        | 2<br>2.0           | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080  | 0,025<br>0.0010  | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 0,06<br>0.0024  | 0,08<br>0.0032  | 0,1<br>0.0040   | 10 (8—15)<br>33 (26—50)     |                |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

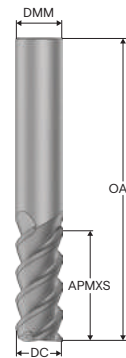
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

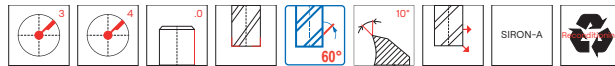
C5231/C5241

General purpose – Universal – Chamfer – 3-4 Flutes – Cylindrical



D

- Tolerances:
- DMM =  $-0.0001''/-0.0004''$
- DC  $\leq \varnothing 7/64'' = \pm 0.0005''$
- DC  $> \varnothing 7/64'' = +0.000''/-0.002''$
- Regrind possible if DC is  $\geq \varnothing 3/8$



| Designation       | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|-------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
|                   |       |             |              |            | inch  | inch  | inch  | inch  |       |             |                |
| C5231-.375D2S.0Z3 | SIRA  | 10268591    | 2            | D          | 0.375 | 0.375 | 0.875 | 2.500 | 3     | Cylindrical | ■              |
| C5231-.500D2S.0Z3 | SIRA  | 10268592    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 3     | Cylindrical | ■              |
| C5231-.625D2S.0Z3 | SIRA  | 10268593    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 3     | Cylindrical | ■              |
| C5231-.250D3S.0Z3 | SIRA  | 10268590    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 3     | Cylindrical | ■              |
| C5241-.750D3S.0Z4 | SIRA  | 10268594    | 3            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster



## Cutting data – C5231-C5241 Side milling – Inch

| SMG |  | $a_e/DC$    | $a_p/DC$ | $f_z$            |                  |                 |                 |                |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|-------------|----------|------------------|------------------|-----------------|-----------------|----------------|-----------------|------------------------------------|
|     |                                                                                   |             |          | 1/4              | 3/8              | 1/2             | 5/8             | 3/4            | 1               |                                    |
| P1  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,04<br>0.0016   | 0,058<br>0.0023  | 0,075<br>0.003  | 0,1<br>0.004    | 0,12<br>0.0048 | 0,15<br>0.006   | 150 (135 — 165)<br>490 (440 — 540) |
| P2  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,033<br>0.0013  | 0,05<br>0.002    | 0,063<br>0.0025 | 0,081<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 58 (45 — 70)<br>190 (147 — 230)    |
| P3  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,033<br>0.0013  | 0,05<br>0.002    | 0,063<br>0.0025 | 0,033<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 85 (70 — 95)<br>279 (246 — 312)    |
| P4  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,0013<br>0.0013 | 0,05<br>0.002    | 0,063<br>0.0025 | 0,033<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 100 (90 — 110)<br>330 (295 — 360)  |
| P5  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,0013<br>0.0013 | 0,05<br>0.002    | 0,063<br>0.0025 | 0,033<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 68 (50 — 75)<br>223 (165 — 245)    |
| P6  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,0013<br>0.0013 | 0,05<br>0.002    | 0,063<br>0.0025 | 0,033<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 87 (77 — 100)<br>285 (250 — 330)   |
| P7  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,0013<br>0.0013 | 0,05<br>0.002    | 0,063<br>0.0025 | 0,033<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 65 (55 — 75)<br>213 (180 — 245)    |
| P8  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,0013<br>0.0013 | 0,05<br>0.002    | 0,063<br>0.0025 | 0,033<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 65 (50 — 75)<br>213 (165 — 245)    |
| P11 | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,0013<br>0.0013 | 0,05<br>0.002    | 0,063<br>0.0025 | 0,033<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 85 (70 — 95)<br>280 (230 — 310)    |
| P12 | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,025<br>0.001   | 0,038<br>0.0015  | 0,05<br>0.002   | 0,063<br>0.0025 | 0,075<br>0.003 | 0,1<br>0.004    | 55 (45 — 65)<br>180 (147 — 213)    |
| M1  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,04<br>0.0016   | 0,0575<br>0.0023 | 0,075<br>0.003  | 0,1<br>0.004    | 0,12<br>0.0048 | 0,15<br>0.006   | 93 (83 — 100)<br>305 (270 — 360)   |
| M2  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,04<br>0.0016   | 0,0023<br>0.0023 | 0,075<br>0.003  | 0,1<br>0.004    | 0,12<br>0.0048 | 0,15<br>0.006   | 60 (50 — 70)<br>200 (165 — 230)    |
| M3  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,0016<br>0.0016 | 0,0023<br>0.0023 | 0,075<br>0.003  | 0,1<br>0.004    | 0,12<br>0.0048 | 0,15<br>0.006   | 55 (45 — 65)<br>180 (147 — 213)    |
| M4  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,0016<br>0.0016 | 0,058<br>0.0023  | 0,075<br>0.003  | 0,1<br>0.004    | 0,12<br>0.0045 | 0,13<br>0.005   | 45 (35 — 55)<br>147 (115 — 180)    |
| M5  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,035<br>0.0014  | 0,05<br>0.002    | 0,069<br>0.0028 | 0,088<br>0.0035 | 0,1<br>0.004   | 0,14<br>0.0055  | 35 (20 — 45)<br>114 (65 — 147)     |
| K1  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,033<br>0.0013  | 0,05<br>0.002    | 0,063<br>0.0025 | 0,081<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 80 (70 — 90)<br>260 (230 — 290)    |
| K2  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,045<br>0.0018  | 0,069<br>0.0028  | 0,063<br>0.0035 | 0,11<br>0.0045  | 0,14<br>0.0055 | 0,18<br>0.0069  | 87 (75 — 100)<br>285 (245 — 330)   |
| K3  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,033<br>0.0013  | 0,05<br>0.002    | 0,063<br>0.0025 | 0,081<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 65 (55 — 75)<br>213 (180 — 245)    |
| K4  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,0013<br>0.0013 | 0,05<br>0.002    | 0,063<br>0.0025 | 0,081<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 50 (35 — 65)<br>165 (115 — 213)    |
| K5  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,0013<br>0.0013 | 0,05<br>0.002    | 0,063<br>0.0025 | 0,033<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 45 (30 — 55)<br>147 (100 — 180)    |
| K6  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,0013<br>0.0013 | 0,05<br>0.002    | 0,063<br>0.0025 | 0,033<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 77 (65 — 85)<br>250 (210 — 280)    |
| K7  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,0013<br>0.0013 | 0,05<br>0.002    | 0,063<br>0.0025 | 0,033<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 77 (60 — 90)<br>250 (200 — 290)    |
| S1  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,0013<br>0.0013 | 0,05<br>0.002    | 0,063<br>0.0025 | 0,033<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 50 (35 — 60)<br>165 (115 — 200)    |
| S2  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,025<br>0.001   | 0,038<br>0.0015  | 0,05<br>0.002   | 0,063<br>0.0025 | 0,075<br>0.003 | 0,1<br>0.004    | 25 (15 — 35)<br>82 (50 — 115)      |
| S3  | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,016<br>0.00063 | 0,025<br>0.001   | 0,033<br>0.0013 | 0,043<br>0.0016 | 0,05<br>0.002  | 0,069<br>0.0028 | 11 (7,5 — 16)<br>35 (25 — 52)      |
| S11 | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,033<br>0.0013  | 0,05<br>0.002    | 0,063<br>0.0025 | 0,081<br>0.0033 | 0,1<br>0.004   | 0,13<br>0.005   | 110 (95 — 120)<br>360 (311 — 390)  |
| S12 | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,025<br>0.001   | 0,038<br>0.0015  | 0,05<br>0.002   | 0,063<br>0.0025 | 0,075<br>0.003 | 0,1<br>0.004    | 77 (60 — 90)<br>250 (190 — 290)    |
| S13 | E                                                                                 | 0,1<br>0.10 | 2<br>2.0 | 0,025<br>0.001   | 0,038<br>0.0015  | 0,05<br>0.002   | 0,063<br>0.0025 | 0,075<br>0.003 | 0,1<br>0.004    | 30 (20 — 40)<br>100 (65 — 130)     |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

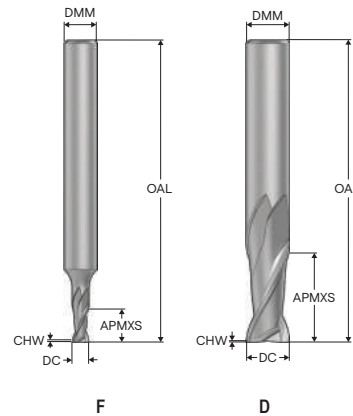
 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

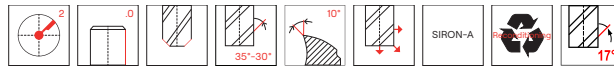


## JSE512

General purpose – Universal – Square – 2 Flutes – Cylindrical – chamfer



- Tolerances:
- DMM=h5
- DC=e8
- Regrind possible if DC is  $\geq \varnothing 10$



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | CHW  | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|------|------|-------|-------------|----------------|
| JSE512021F2C.0Z2 | SIRA  | 10052986    | 2            | F          | 2,0  | 3,0  | 4,0   | 50,0 | 0,02 | 2     | Cylindrical | ■              |
| JSE512020F2C.0Z2 | SIRA  | 10052990    | 2            | F          | 2,0  | 6,0  | 4,0   | 57,0 | 0,02 | 2     | Cylindrical | ■              |
| JSE512030D2C.0Z2 | SIRA  | 10052987    | 2            | D          | 3,0  | 3,0  | 6,0   | 50,0 | 0,03 | 2     | Cylindrical | ■              |
| JSE512030F2C.0Z2 | SIRA  | 10052991    | 2            | F          | 3,0  | 6,0  | 6,0   | 57,0 | 0,03 | 2     | Cylindrical | ■              |
| JSE512040D2C.0Z2 | SIRA  | 10052988    | 2            | D          | 4,0  | 4,0  | 8,0   | 50,0 | 0,04 | 2     | Cylindrical | ■              |
| JSE512040F2C.0Z2 | SIRA  | 10052992    | 2            | F          | 4,0  | 6,0  | 8,0   | 57,0 | 0,04 | 2     | Cylindrical | ■              |
| JSE512050D2C.0Z2 | SIRA  | 10052989    | 2            | D          | 5,0  | 5,0  | 10,0  | 50,0 | 0,05 | 2     | Cylindrical | ■              |
| JSE512060D2C.0Z2 | SIRA  | 10052993    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0 | 0,06 | 2     | Cylindrical | ■              |
| JSE512080D2C.0Z2 | SIRA  | 10052994    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0 | 0,08 | 2     | Cylindrical | ■              |
| JSE512100D2C.0Z2 | SIRA  | 10052995    | 2            | D          | 10,0 | 10,0 | 20,0  | 72,0 | 0,1  | 2     | Cylindrical | ■              |
| JSE512120D2C.0Z2 | SIRA  | 10052996    | 2            | D          | 12,0 | 12,0 | 24,0  | 83,0 | 0,12 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

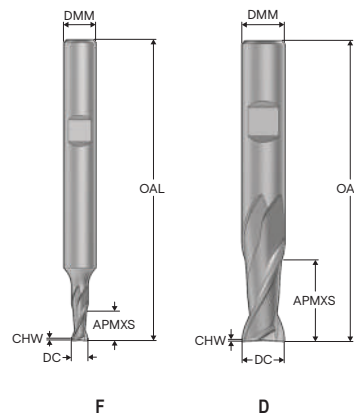
Graphite

X-Heads

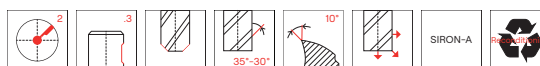
Minimaster

## JSE512

General purpose – Universal – Square – 2 Flutes – Weldon – chamfer



—Tolerances:  
—DMM=h5  
—DC=e8  
—Regrind possible if DC is  $\geq \varnothing 10$



| Designation      | Grade | Item number | Length index | Tool shape | DC | DMM  | APMXS | OAL  | CHW  | PCEDC | Shank | Stock standard |   |
|------------------|-------|-------------|--------------|------------|----|------|-------|------|------|-------|-------|----------------|---|
| JSE512020F2C.3Z2 | SIRA  | 10053113    | 2            | F          | mm | 2,0  | 6,0   | 4,0  | 57,0 | 0,02  | 2     | Weldon         | ■ |
| JSE512030F2C.3Z2 | SIRA  | 10053114    | 2            | F          | mm | 3,0  | 6,0   | 6,0  | 57,0 | 0,03  | 2     | Weldon         | ■ |
| JSE512040F2C.3Z2 | SIRA  | 10053115    | 2            | F          | mm | 4,0  | 6,0   | 8,0  | 57,0 | 0,04  | 2     | Weldon         | ■ |
| JSE512060D2C.3Z2 | SIRA  | 10053116    | 2            | D          | mm | 6,0  | 6,0   | 12,0 | 57,0 | 0,06  | 2     | Weldon         | ■ |
| JSE512080D2C.3Z2 | SIRA  | 10053117    | 2            | D          | mm | 8,0  | 8,0   | 16,0 | 63,0 | 0,08  | 2     | Weldon         | ■ |
| JSE512100D2C.3Z2 | SIRA  | 10053118    | 2            | D          | mm | 10,0 | 10,0  | 20,0 | 72,0 | 0,1   | 2     | Weldon         | ■ |
| JSE512120D2C.3Z2 | SIRA  | 10053119    | 2            | D          | mm | 12,0 | 12,0  | 24,0 | 83,0 | 0,12  | 2     | Weldon         | ■ |

■ Stocked standard.

## Cutting data – JSE512 Side milling

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$            |                  |                  |                 |                 |                 |                 |                 | $v_c$                                 |                                 |
|-----|-----------------------------------------------------------------------------------|----------------|------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                |            | 2                | 3                | 4                | 5               | 6               | 8               | 10              | 12              |                                       |                                 |
| P1  | M/A/D/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     | Universal                       |
| P2  | M/A/D/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     |                                 |
| P3  | M/A/D/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     | Steel and cast iron             |
| P4  | M/A/D/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     |                                 |
| P5  | M/A/D/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     | Stainless steel and S-materials |
| P6  | M/A/D/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     |                                 |
| P7  | M/A/D/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     | Non ferrous                     |
| P8  | M/A/D/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     |                                 |
| P11 | M/A/D/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 85 (61 — 120)<br>280 (210 — 390)      | Hard                            |
| P12 | M/A/D/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 85 (61 — 120)<br>280 (210 — 390)      |                                 |
| M1  | E/M/A                                                                             | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 85 (61 — 120)<br>280 (210 — 390)      | Plastic and cf/p                |
| M2  | E/M/A                                                                             | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 85 (61 — 120)<br>280 (210 — 390)      |                                 |
| M3  | E/M/A                                                                             | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 85 (61 — 120)<br>280 (210 — 390)      | Graphite                        |
| M4  | E/M/A                                                                             | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 85 (61 — 120)<br>280 (210 — 390)      |                                 |
| M5  | E/M/A                                                                             | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 85 (61 — 120)<br>280 (210 — 390)      | X-Heads                         |
| K1  | A/D/M/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     |                                 |
| K2  | A/D/M/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     | Minimaster                      |
| K3  | A/D/M/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     |                                 |
| K4  | A/D/M/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     |                                 |
| K5  | A/D/M/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     |                                 |
| K6  | A/D/M/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     |                                 |
| K7  | A/D/M/E                                                                           | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     |                                 |
| N1  | E/M/A                                                                             | 0.200<br>0,200 | 1.5<br>1,5 | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 500 (380 — 630)<br>1650 (1300 — 2000) |                                 |
| N11 | E/M/A                                                                             | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 365 (250 — 480)<br>1200 (830 — 1500)  |                                 |
| S11 | E                                                                                 | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 85 (61 — 120)<br>280 (210 — 390)      |                                 |
| S12 | E                                                                                 | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 85 (61 — 120)<br>280 (210 — 390)      |                                 |
| S13 | E                                                                                 | 0.250<br>0,250 | 1.5<br>1,5 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 85 (61 — 120)<br>280 (210 — 390)      |                                 |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – JSE512 Slot milling

| SMG |         |  | $a_p$ /DC | $f_z$   |         |         |         |         |         |        |        | $v_c$             |
|-----|---------|-----------------------------------------------------------------------------------|-----------|---------|---------|---------|---------|---------|---------|--------|--------|-------------------|
|     |         |                                                                                   |           | 2       | 3       | 4       | 5       | 6       | 8       | 10     | 12     |                   |
| P1  | M/A/D/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (51 — 150)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 490)   |
| P2  | M/A/D/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (50 — 140)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 450)   |
| P3  | M/A/D/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (51 — 150)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 490)   |
| P4  | M/A/D/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (50 — 140)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 450)   |
| P5  | M/A/D/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (50 — 140)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 450)   |
| P6  | M/A/D/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (50 — 140)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 450)   |
| P7  | M/A/D/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (51 — 150)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 490)   |
| P8  | M/A/D/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (50 — 140)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 450)   |
| P11 | M/A/D/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 70 (51 — 100)     |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 230 (170 — 320)   |
| P12 | M/A/D/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 70 (50 — 99)      |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 230 (170 — 320)   |
| M1  | E/M/A   |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 70 (50 — 99)      |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 230 (170 — 320)   |
| M2  | E/M/A   |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 70 (50 — 99)      |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 230 (170 — 320)   |
| M3  | E/M/A   |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 70 (50 — 99)      |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 230 (170 — 320)   |
| M4  | E/M/A   |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 70 (50 — 99)      |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 230 (170 — 320)   |
| M5  | E/M/A   |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 70 (50 — 99)      |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 230 (170 — 320)   |
| K1  | A/D/M/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (50 — 140)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 450)   |
| K2  | A/D/M/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (50 — 140)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 450)   |
| K3  | A/D/M/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (50 — 140)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 450)   |
| K4  | A/D/M/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (50 — 140)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 450)   |
| K5  | A/D/M/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (50 — 140)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 450)   |
| K6  | A/D/M/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (50 — 140)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 450)   |
| K7  | A/D/M/E |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 120 (50 — 140)    |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 395 (170 — 450)   |
| N1  | E/M/A   |                                                                                   | 0.40      | 0.010   | 0.015   | 0.020   | 0.025   | 0.030   | 0.040   | 0.050  | 0.060  | 400 (300 — 500)   |
|     |         |                                                                                   | 0.40      | 0,00040 | 0,00060 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0020 | 0,0024 | 1300 (990 — 1600) |
| N11 | E/M/A   |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 300 (200 — 390)   |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 980 (660 — 1200)  |
| S11 | E       |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 70 (50 — 99)      |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 230 (170 — 320)   |
| S12 | E       |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 70 (50 — 99)      |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 230 (170 — 320)   |
| S13 | E       |                                                                                   | 0.60      | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 70 (50 — 99)      |
|     |         |                                                                                   | 0.60      | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 230 (170 — 320)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

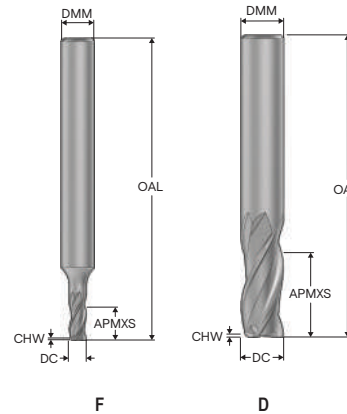
 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

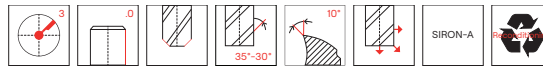
All cutting data are target values

## JSE513

General purpose – Universal – Square – 3 Flutes – Cylindrical – chamfer



- Tolerances:
- DMM=h5
- DC=e8
- Regrind possible if DC is  $\geq \varnothing 10$



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|-------|-------|-------------|----------------|
| JSE513020F2C.0Z3 | SIRA  | 10053000    | 2            | F          | mm   | mm   | mm    | mm    | mm    |       |             |                |
| JSE513025F2C.0Z3 | SIRA  | 10053001    | 2            | F          | 2,0  | 6,0  | 4,0   | 57,0  | 0,02  | 3     | Cylindrical | ■              |
| JSE513030D2C.0Z3 | SIRA  | 10052998    | 2            | D          | 2,5  | 6,0  | 5,0   | 57,0  | 0,025 | 3     | Cylindrical | ■              |
| JSE513030F2C.0Z3 | SIRA  | 10053002    | 2            | F          | 3,0  | 6,0  | 6,0   | 57,0  | 0,03  | 3     | Cylindrical | ■              |
| JSE513040D2C.0Z3 | SIRA  | 10052999    | 2            | D          | 3,0  | 6,0  | 6,0   | 57,0  | 0,03  | 3     | Cylindrical | ■              |
| JSE513040F2C.0Z3 | SIRA  | 10053003    | 2            | F          | 4,0  | 6,0  | 8,0   | 57,0  | 0,04  | 3     | Cylindrical | ■              |
| JSE513050F2C.0Z3 | SIRA  | 10053004    | 2            | F          | 4,0  | 6,0  | 8,0   | 57,0  | 0,04  | 3     | Cylindrical | ■              |
| JSE513060D2C.0Z3 | SIRA  | 10053005    | 2            | D          | 5,0  | 6,0  | 10,0  | 57,0  | 0,05  | 3     | Cylindrical | ■              |
| JSE513070F2C.0Z3 | SIRA  | 10053006    | 2            | F          | 6,0  | 6,0  | 12,0  | 57,0  | 0,06  | 3     | Cylindrical | ■              |
| JSE513080D2C.0Z3 | SIRA  | 10053007    | 2            | D          | 7,0  | 8,0  | 14,0  | 63,0  | 0,07  | 3     | Cylindrical | ■              |
| JSE513090F2C.0Z3 | SIRA  | 10053008    | 2            | F          | 8,0  | 8,0  | 16,0  | 63,0  | 0,08  | 3     | Cylindrical | ■              |
| JSE513100D2C.0Z3 | SIRA  | 10053009    | 2            | D          | 9,0  | 10,0 | 18,0  | 72,0  | 0,09  | 3     | Cylindrical | ■              |
| JSE513110F2C.0Z3 | SIRA  | 10053010    | 2            | F          | 10,0 | 10,0 | 20,0  | 72,0  | 0,1   | 3     | Cylindrical | ■              |
| JSE513120D2C.0Z3 | SIRA  | 10053011    | 2            | D          | 11,0 | 12,0 | 22,0  | 83,0  | 0,11  | 3     | Cylindrical | ■              |
| JSE513140D2C.0Z3 | SIRA  | 10053012    | 2            | D          | 12,0 | 12,0 | 24,0  | 83,0  | 0,12  | 3     | Cylindrical | ■              |
| JSE513160D2C.0Z3 | SIRA  | 10053013    | 2            | D          | 14,0 | 14,0 | 28,0  | 80,0  | 0,14  | 3     | Cylindrical | ■              |
| JSE513180D2C.0Z3 | SIRA  | 10053014    | 2            | D          | 16,0 | 16,0 | 32,0  | 92,0  | 0,16  | 3     | Cylindrical | ■              |
| JSE513200D2C.0Z3 | SIRA  | 10053015    | 2            | D          | 18,0 | 18,0 | 35,0  | 100,0 | 0,18  | 3     | Cylindrical | ■              |
| JSE513030F3C.0Z3 | SIRA  | 10053038    | 3            | F          | 20,0 | 20,0 | 35,0  | 104,0 | 0,2   | 3     | Cylindrical | ■              |
| JSE513040F3C.0Z3 | SIRA  | 10053039    | 3            | F          | 3,0  | 6,0  | 10,0  | 57,0  | 0,03  | 3     | Cylindrical | ■              |
| JSE513050F3C.0Z3 | SIRA  | 10053040    | 3            | F          | 4,0  | 6,0  | 14,0  | 57,0  | 0,04  | 3     | Cylindrical | ■              |
| JSE513060D3C.0Z3 | SIRA  | 10053046    | 3            | D          | 5,0  | 6,0  | 18,0  | 57,0  | 0,05  | 3     | Cylindrical | ■              |
| JSE513080D3C.0Z3 | SIRA  | 10053047    | 3            | D          | 6,0  | 6,0  | 20,0  | 63,0  | 0,06  | 3     | Cylindrical | ■              |
| JSE513100D3C.0Z3 | SIRA  | 10053048    | 3            | D          | 8,0  | 8,0  | 28,0  | 80,0  | 0,08  | 3     | Cylindrical | ■              |
| JSE513120D3C.0Z3 | SIRA  | 10053049    | 3            | D          | 10,0 | 10,0 | 35,0  | 89,0  | 0,1   | 3     | Cylindrical | ■              |
| JSE513160D3C.0Z3 | SIRA  | 10053050    | 3            | D          | 12,0 | 12,0 | 42,0  | 100,0 | 0,12  | 3     | Cylindrical | ■              |
| JSE513200D3C.0Z3 | SIRA  | 10053052    | 3            | D          | 16,0 | 16,0 | 50,0  | 115,0 | 0,16  | 3     | Cylindrical | ■              |
| JSE513030F4C.0Z3 | SIRA  | 10201454    | 4            | F          | 20,0 | 20,0 | 60,0  | 125,0 | 0,2   | 3     | Cylindrical | ■              |
| JSE513040F4C.0Z3 | SIRA  | 10201455    | 4            | F          | 3,0  | 6,0  | 15,0  | 57,0  | 0,03  | 3     | Cylindrical | ■              |
| JSE513050F4C.0Z3 | SIRA  | 10201456    | 4            | F          | 4,0  | 6,0  | 20,0  | 63,0  | 0,04  | 3     | Cylindrical | ■              |
| JSE513060D4C.0Z3 | SIRA  | 10201457    | 4            | D          | 5,0  | 6,0  | 25,0  | 75,0  | 0,05  | 3     | Cylindrical | ■              |
| JSE513080D4C.0Z3 | SIRA  | 10201458    | 4            | D          | 6,0  | 6,0  | 30,0  | 75,0  | 0,06  | 3     | Cylindrical | ■              |
| JSE513100D4C.0Z3 | SIRA  | 10201459    | 4            | D          | 8,0  | 8,0  | 40,0  | 87,0  | 0,08  | 3     | Cylindrical | ■              |
| JSE513120D4C.0Z3 | SIRA  | 10201460    | 4            | D          | 10,0 | 10,0 | 50,0  | 104,0 | 0,1   | 3     | Cylindrical | ■              |
| JSE513160D4C.0Z3 | SIRA  | 10201461    | 4            | D          | 12,0 | 12,0 | 60,0  | 125,0 | 0,12  | 3     | Cylindrical | ■              |
| JSE513200D4C.0Z3 | SIRA  | 10201462    | 4            | D          | 16,0 | 16,0 | 80,0  | 150,0 | 0,16  | 3     | Cylindrical | ■              |
| JSE513200D4C.0Z3 | SIRA  | 10201462    | 4            | D          | 20,0 | 20,0 | 100,0 | 170,0 | 0,2   | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

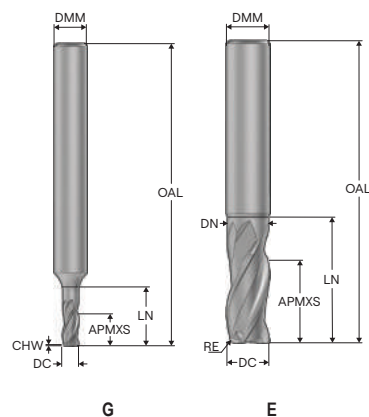
Graphite

X-Heads

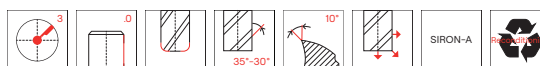
Minimaster

## JSE513

General purpose – Universal – Square – 3 Flutes – Cylindrical – Corner radius



—Tolerances:  
—DMM=h5  
—DC=e8  
—RE= ±0,05 mm  
—Regrind possible if DC is ≥Ø10



| Designation         | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|---------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
| JSE513030G2R050.0Z3 | SIRA  | 10053023    | 2            | G          | 3,0  | 6,0  | 6,0   | 57,0  | 10,0 | 2,85 | 0,5 | 3     | Cylindrical | ■              |
| JSE513040G2R050.0Z3 | SIRA  | 10053024    | 2            | G          | 4,0  | 6,0  | 8,0   | 57,0  | 13,0 | 3,8  | 0,5 | 3     | Cylindrical | ■              |
| JSE513050G2R050.0Z3 | SIRA  | 10053025    | 2            | G          | 5,0  | 6,0  | 10,0  | 57,0  | 16,0 | 4,75 | 0,5 | 3     | Cylindrical | ■              |
| JSE513060E2R050.0Z3 | SIRA  | 10053026    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,5 | 3     | Cylindrical | ■              |
| JSE513060E2R100.0Z3 | SIRA  | 10053032    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 1,0 | 3     | Cylindrical | ■              |
| JSE513080E2R050.0Z3 | SIRA  | 10053027    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,5 | 3     | Cylindrical | ■              |
| JSE513080E2R100.0Z3 | SIRA  | 10053033    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 1,0 | 3     | Cylindrical | ■              |
| JSE513100E2R050.0Z3 | SIRA  | 10053028    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,5 | 3     | Cylindrical | ■              |
| JSE513100E2R100.0Z3 | SIRA  | 10053034    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 1,0 | 3     | Cylindrical | ■              |
| JSE513120E2R050.0Z3 | SIRA  | 10053029    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,5 | 3     | Cylindrical | ■              |
| JSE513120E2R100.0Z3 | SIRA  | 10053035    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 1,0 | 3     | Cylindrical | ■              |
| JSE513160E2R050.0Z3 | SIRA  | 10053030    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,5 | 3     | Cylindrical | ■              |
| JSE513200E2R050.0Z3 | SIRA  | 10053031    | 2            | E          | 20,0 | 20,0 | 35,0  | 104,0 | 51,0 | 19,0 | 0,5 | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

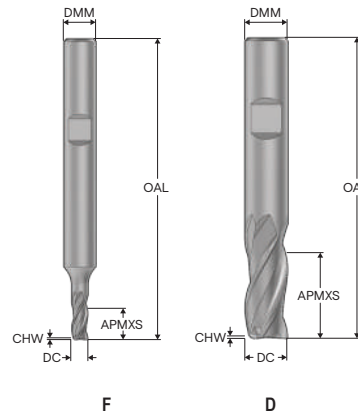
Graphite

X-Heads

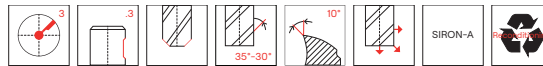
Minimaster

## JSE513

General purpose – Universal – Square – 3 Flutes – Weldon – chamfer



- Tolerances:
- DMM=h5
- DC=e8
- Regrind possible if DC is  $\geq \varnothing 10$



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank  | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|-------|-------|--------|----------------|
| JSE513020F2C.3Z3 | SIRA  | 10053120    | 2            | F          | mm   | mm   | mm    | mm    | mm    |       |        |                |
| JSE513025F2C.3Z3 | SIRA  | 10053121    | 2            | F          | 2,0  | 6,0  | 4,0   | 57,0  | 0,02  | 3     | Weldon | ■              |
| JSE513030F2C.3Z3 | SIRA  | 10053122    | 2            | F          | 2,5  | 6,0  | 5,0   | 57,0  | 0,025 | 3     | Weldon | ■              |
| JSE513040F2C.3Z3 | SIRA  | 10053123    | 2            | F          | 3,0  | 6,0  | 6,0   | 57,0  | 0,03  | 3     | Weldon | ■              |
| JSE513050F2C.3Z3 | SIRA  | 10053124    | 2            | F          | 4,0  | 6,0  | 8,0   | 57,0  | 0,04  | 3     | Weldon | ■              |
| JSE513060D2C.3Z3 | SIRA  | 10053125    | 2            | D          | 5,0  | 6,0  | 10,0  | 57,0  | 0,05  | 3     | Weldon | ■              |
| JSE513070F2C.3Z3 | SIRA  | 10053126    | 2            | F          | 6,0  | 6,0  | 12,0  | 57,0  | 0,06  | 3     | Weldon | ■              |
| JSE513080D2C.3Z3 | SIRA  | 10053127    | 2            | D          | 7,0  | 8,0  | 14,0  | 63,0  | 0,07  | 3     | Weldon | ■              |
| JSE513090F2C.3Z3 | SIRA  | 10053128    | 2            | F          | 8,0  | 8,0  | 16,0  | 63,0  | 0,08  | 3     | Weldon | ■              |
| JSE513100D2C.3Z3 | SIRA  | 10053129    | 2            | F          | 9,0  | 10,0 | 18,0  | 72,0  | 0,09  | 3     | Weldon | ■              |
| JSE513110F2C.3Z3 | SIRA  | 10053130    | 2            | D          | 10,0 | 10,0 | 20,0  | 72,0  | 0,1   | 3     | Weldon | ■              |
| JSE513120D2C.3Z3 | SIRA  | 10053131    | 2            | F          | 11,0 | 12,0 | 22,0  | 83,0  | 0,11  | 3     | Weldon | ■              |
| JSE513140D2C.3Z3 | SIRA  | 10053132    | 2            | D          | 12,0 | 12,0 | 24,0  | 83,0  | 0,12  | 3     | Weldon | ■              |
| JSE513160D2C.3Z3 | SIRA  | 10053133    | 2            | D          | 14,0 | 14,0 | 28,0  | 80,0  | 0,14  | 3     | Weldon | ■              |
| JSE513180D2C.3Z3 | SIRA  | 10053134    | 2            | D          | 16,0 | 16,0 | 32,0  | 92,0  | 0,16  | 3     | Weldon | ■              |
| JSE513200D2C.3Z3 | SIRA  | 10053135    | 2            | D          | 18,0 | 18,0 | 35,0  | 100,0 | 0,18  | 3     | Weldon | ■              |
| JSE513030F3C.3Z3 | SIRA  | 10053275    | 3            | F          | 20,0 | 20,0 | 35,0  | 104,0 | 0,2   | 3     | Weldon | ■              |
| JSE513040F3C.3Z3 | SIRA  | 10053276    | 3            | F          | 3,0  | 6,0  | 10,0  | 57,0  | 0,03  | 3     | Weldon | ■              |
| JSE513050F3C.3Z3 | SIRA  | 10053277    | 3            | F          | 4,0  | 6,0  | 14,0  | 57,0  | 0,04  | 3     | Weldon | ■              |
| JSE513060D3C.3Z3 | SIRA  | 10053283    | 3            | F          | 5,0  | 6,0  | 18,0  | 57,0  | 0,05  | 3     | Weldon | ■              |
| JSE513080D3C.3Z3 | SIRA  | 10053284    | 3            | D          | 6,0  | 6,0  | 20,0  | 63,0  | 0,06  | 3     | Weldon | ■              |
| JSE513100D3C.3Z3 | SIRA  | 10053285    | 3            | D          | 8,0  | 8,0  | 28,0  | 80,0  | 0,08  | 3     | Weldon | ■              |
| JSE513120D3C.3Z3 | SIRA  | 10053286    | 3            | D          | 10,0 | 10,0 | 35,0  | 89,0  | 0,1   | 3     | Weldon | ■              |
| JSE513160D3C.3Z3 | SIRA  | 10053287    | 3            | D          | 12,0 | 12,0 | 42,0  | 100,0 | 0,12  | 3     | Weldon | ■              |
| JSE513200D3C.3Z3 | SIRA  | 10053288    | 3            | D          | 16,0 | 16,0 | 50,0  | 115,0 | 0,16  | 3     | Weldon | ■              |
| JSE513030F4C.3Z3 | SIRA  | 10201463    | 4            | F          | 20,0 | 20,0 | 60,0  | 125,0 | 0,2   | 3     | Weldon | ■              |
| JSE513040F4C.3Z3 | SIRA  | 10201464    | 4            | F          | 3,0  | 6,0  | 15,0  | 57,0  | 0,03  | 3     | Weldon | □              |
| JSE513050F4C.3Z3 | SIRA  | 10201465    | 4            | F          | 4,0  | 6,0  | 20,0  | 63,0  | 0,04  | 3     | Weldon | □              |
| JSE513060D4C.3Z3 | SIRA  | 10201466    | 4            | F          | 5,0  | 6,0  | 25,0  | 75,0  | 0,05  | 3     | Weldon | □              |
| JSE513080D4C.3Z3 | SIRA  | 10201467    | 4            | D          | 6,0  | 6,0  | 30,0  | 75,0  | 0,06  | 3     | Weldon | □              |
| JSE513100D4C.3Z3 | SIRA  | 10201468    | 4            | D          | 8,0  | 8,0  | 40,0  | 87,0  | 0,08  | 3     | Weldon | □              |
| JSE513120D4C.3Z3 | SIRA  | 10201469    | 4            | D          | 10,0 | 10,0 | 50,0  | 104,0 | 0,1   | 3     | Weldon | □              |
| JSE513160D4C.3Z3 | SIRA  | 10201470    | 4            | D          | 12,0 | 12,0 | 60,0  | 125,0 | 0,12  | 3     | Weldon | □              |
| JSE513200D4C.3Z3 | SIRA  | 10201471    | 4            | D          | 16,0 | 16,0 | 80,0  | 150,0 | 0,16  | 3     | Weldon | □              |
| JSE513200D4C.3Z3 | SIRA  | 10201471    | 4            | D          | 20,0 | 20,0 | 100,0 | 170,0 | 0,2   | 3     | Weldon | □              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfzp

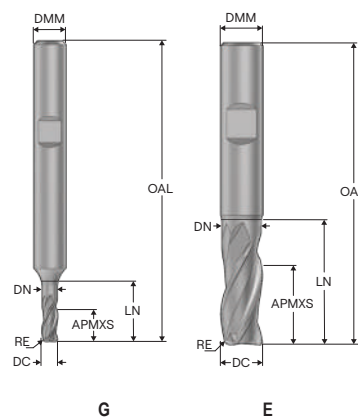
Graphite

X-Heads

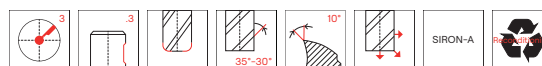
Minimaster

## JSE513

General purpose – Universal – Square – 3 Flutes – Weldon – Corner radius



—Tolerances:  
—DMM=h5  
—DC=e8  
—RE= ±0,05 mm  
—Regrind possible if DC is ≥Ø10



| Designation         | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank  | Stock standard |
|---------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|--------|----------------|
| JSE513030G2R050.3Z3 | SIRA  | 10053260    | 2            | G          | 3,0  | 6,0  | 6,0   | 57,0  | 10,0 | 2,85 | 0,5 | 3     | Weldon | ■              |
| JSE513040G2R050.3Z3 | SIRA  | 10053261    | 2            | G          | 4,0  | 6,0  | 8,0   | 57,0  | 13,0 | 3,8  | 0,5 | 3     | Weldon | ■              |
| JSE513050G2R050.3Z3 | SIRA  | 10053262    | 2            | G          | 5,0  | 6,0  | 10,0  | 57,0  | 16,0 | 4,75 | 0,5 | 3     | Weldon | ■              |
| JSE513060E2R050.3Z3 | SIRA  | 10053263    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,5 | 3     | Weldon | ■              |
| JSE513060E2R100.3Z3 | SIRA  | 10053269    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 1,0 | 3     | Weldon | ■              |
| JSE513080E2R050.3Z3 | SIRA  | 10053264    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,5 | 3     | Weldon | ■              |
| JSE513080E2R100.3Z3 | SIRA  | 10053270    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 1,0 | 3     | Weldon | ■              |
| JSE513100E2R050.3Z3 | SIRA  | 10053265    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,5 | 3     | Weldon | ■              |
| JSE513100E2R100.3Z3 | SIRA  | 10053271    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 1,0 | 3     | Weldon | ■              |
| JSE513120E2R050.3Z3 | SIRA  | 10053266    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,5 | 3     | Weldon | ■              |
| JSE513120E2R100.3Z3 | SIRA  | 10053272    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 1,0 | 3     | Weldon | ■              |
| JSE513160E2R050.3Z3 | SIRA  | 10053267    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,5 | 3     | Weldon | ■              |
| JSE513200E2R050.3Z3 | SIRA  | 10053268    | 2            | E          | 20,0 | 20,0 | 35,0  | 104,0 | 51,0 | 19,0 | 0,5 | 3     | Weldon | ■              |

■ Stocked standard.



## Universal

and cast

Stainless steel

Non ferrous

Hard

## Plastic and cfrp

raphite

### $\kappa$ -Heads

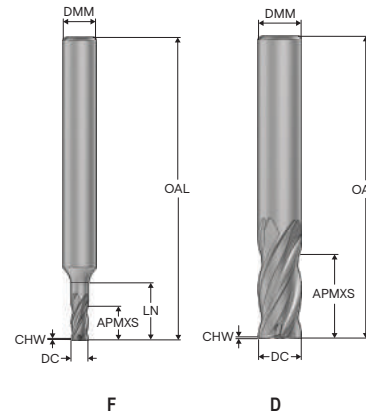
## Minimaster

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |         |         |        |        |        |        |        |        |        |        |                 | v <sub>c</sub> |  |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|----------------|--|
|     |                                                                                   |                    | 2              | 3       | 4       | 5       | 6       | 7       | 8       | 9      | 10     | 11     | 12     | 14     | 16     | 18     | 20     |                 |                |  |
| P1  | M/A/D/E                                                                           | 0.50               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.022   | 0.024   | 0.028  | 0.030  | 0.034  | 0.036  | 0.042  | 0.048  | 0.055  | 0.060  | 120 (51 — 150)  |                |  |
|     |                                                                                   | 0.50               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00085 | 0.00095 | 0.0011 | 0.0012 | 0.0013 | 0.0014 | 0.0017 | 0.0019 | 0.0022 | 0.0024 | 395 (170 — 490) |                |  |
| P2  | M/A/D/E                                                                           | 0.50               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.022   | 0.024   | 0.028  | 0.030  | 0.034  | 0.036  | 0.042  | 0.048  | 0.055  | 0.060  | 120 (50 — 140)  |                |  |
|     |                                                                                   | 0.50               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00085 | 0.00095 | 0.0011 | 0.0012 | 0.0013 | 0.0014 | 0.0017 | 0.0019 | 0.0022 | 0.0024 | 395 (170 — 450) |                |  |
| P3  | M/A/D/E                                                                           | 0.50               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.022   | 0.024   | 0.028  | 0.030  | 0.034  | 0.036  | 0.042  | 0.048  | 0.055  | 0.060  | 120 (51 — 150)  |                |  |
|     |                                                                                   | 0.50               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00085 | 0.00095 | 0.0011 | 0.0012 | 0.0013 | 0.0014 | 0.0017 | 0.0019 | 0.0022 | 0.0024 | 395 (170 — 490) |                |  |
| P4  | M/A/D/E                                                                           | 0.50               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.022   | 0.024   | 0.028  | 0.030  | 0.034  | 0.036  | 0.042  | 0.048  | 0.055  | 0.060  | 120 (50 — 140)  |                |  |
|     |                                                                                   | 0.50               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00085 | 0.00095 | 0.0011 | 0.0012 | 0.0013 | 0.0014 | 0.0017 | 0.0019 | 0.0022 | 0.0024 | 395 (170 — 450) |                |  |
| P5  | M/A/D/E                                                                           | 0.50               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.022   | 0.024   | 0.028  | 0.030  | 0.034  | 0.036  | 0.042  | 0.048  | 0.055  | 0.060  | 120 (51 — 150)  |                |  |
|     |                                                                                   | 0.50               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00085 | 0.00095 | 0.0011 | 0.0012 | 0.0013 | 0.0014 | 0.0017 | 0.0019 | 0.0022 | 0.0024 | 395 (170 — 490) |                |  |
| P6  | M/A/D/E                                                                           | 0.50               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.022   | 0.024   | 0.028  | 0.030  | 0.034  | 0.036  | 0.042  | 0.048  | 0.055  | 0.060  | 120 (50 — 140)  |                |  |
|     |                                                                                   | 0.50               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00085 | 0.00095 | 0.0011 | 0.0012 | 0.0013 | 0.0014 | 0.0017 | 0.0019 | 0.0022 | 0.0024 | 395 (170 — 450) |                |  |
| P7  | M/A/D/E                                                                           | 0.50               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.022   | 0.024   | 0.028  | 0.030  | 0.034  | 0.036  | 0.042  | 0.048  | 0.055  | 0.060  | 120 (51 — 150)  |                |  |
|     |                                                                                   | 0.50               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00085 | 0.00095 | 0.0011 | 0.0012 | 0.0013 | 0.0014 | 0.0017 | 0.0019 | 0.0022 | 0.0024 | 395 (170 — 490) |                |  |
| P8  | M/A/D/E                                                                           | 0.50               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.022   | 0.024   | 0.028  | 0.030  | 0.034  | 0.036  | 0.042  | 0.048  | 0.055  | 0.060  | 120 (51 — 150)  |                |  |
|     |                                                                                   | 0.50               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00085 | 0.00095 | 0.0011 | 0.0012 | 0.0013 | 0.0014 | 0.0017 | 0.0019 | 0.0022 | 0.0024 | 395 (170 — 490) |                |  |
| P11 | M/A/D/E                                                                           | 0.50               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.022   | 0.024   | 0.028  | 0.030  | 0.034  | 0.036  | 0.042  | 0.048  | 0.055  | 0.060  | 70 (51 — 100)   |                |  |
|     |                                                                                   | 0.50               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00085 | 0.00095 | 0.0011 | 0.0012 | 0.0013 | 0.0014 | 0.0017 | 0.0019 | 0.0022 | 0.0024 | 230 (170 — 320) |                |  |
| P12 | M/A/D/E                                                                           | 0.50               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.022   | 0.024   | 0.028  | 0.030  | 0.034  | 0.036  | 0.042  | 0.048  | 0.055  |        |                 |                |  |

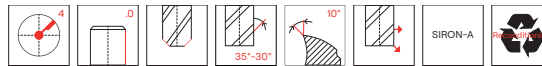
SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

## JSE514

General purpose – Universal – Square – 4 Flutes – Cylindrical – chamfer



- Tolerances:
- DMM=h5
- DC=e8
- Regrind possible if DC is  $\geq \varnothing 10$



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW  | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|-------|-------------|----------------|
| JSE514021F2C.0Z4 | SIRA  | 10053053    | 2            | F          | mm   | mm   | mm    | mm    | mm   |       |             |                |
| JSE514020F2C.0Z4 | SIRA  | 10053057    | 2            | F          | 2,0  | 3,0  | 4,0   | 50,0  | 0,02 | 4     | Cylindrical | ■              |
| JSE514030D2C.0Z4 | SIRA  | 10053054    | 2            | D          | 2,0  | 6,0  | 4,0   | 57,0  | 0,02 | 4     | Cylindrical | ■              |
| JSE514030F2C.0Z4 | SIRA  | 10053058    | 2            | F          | 3,0  | 3,0  | 6,0   | 50,0  | 0,03 | 4     | Cylindrical | ■              |
| JSE514040D2C.0Z4 | SIRA  | 10053055    | 2            | D          | 3,0  | 6,0  | 6,0   | 57,0  | 0,03 | 4     | Cylindrical | ■              |
| JSE514040F2C.0Z4 | SIRA  | 10053059    | 2            | F          | 4,0  | 4,0  | 8,0   | 50,0  | 0,04 | 4     | Cylindrical | ■              |
| JSE514050D2C.0Z4 | SIRA  | 10053056    | 2            | D          | 4,0  | 6,0  | 8,0   | 57,0  | 0,04 | 4     | Cylindrical | ■              |
| JSE514050F2C.0Z4 | SIRA  | 10053060    | 2            | F          | 5,0  | 5,0  | 10,0  | 50,0  | 0,05 | 4     | Cylindrical | ■              |
| JSE514060D2C.0Z4 | SIRA  | 10053061    | 2            | D          | 5,0  | 6,0  | 10,0  | 57,0  | 0,05 | 4     | Cylindrical | ■              |
| JSE514080D2C.0Z4 | SIRA  | 10053062    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | 0,06 | 4     | Cylindrical | ■              |
| JSE514100D2C.0Z4 | SIRA  | 10053063    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | 0,08 | 4     | Cylindrical | ■              |
| JSE514120D2C.0Z4 | SIRA  | 10053064    | 2            | D          | 10,0 | 10,0 | 20,0  | 72,0  | 0,1  | 4     | Cylindrical | ■              |
| JSE514160D2C.0Z4 | SIRA  | 10053067    | 2            | D          | 12,0 | 12,0 | 24,0  | 83,0  | 0,12 | 4     | Cylindrical | ■              |
| JSE514180D2C.0Z4 | SIRA  | 10053068    | 2            | D          | 16,0 | 16,0 | 32,0  | 92,0  | 0,16 | 4     | Cylindrical | ■              |
| JSE514200D2C.0Z4 | SIRA  | 10053069    | 2            | D          | 18,0 | 18,0 | 35,0  | 100,0 | 0,18 | 4     | Cylindrical | ■              |
| JSE514250D2C.0Z4 | SIRA  | 10053070    | 2            | D          | 20,0 | 20,0 | 35,0  | 104,0 | 0,2  | 4     | Cylindrical | ■              |
| JSE514030F3C.0Z4 | SIRA  | 10053090    | 3            | F          | 25,0 | 25,0 | 40,0  | 125,0 | 0,25 | 4     | Cylindrical | ■              |
| JSE514040F3C.0Z4 | SIRA  | 10053091    | 3            | F          | 3,0  | 6,0  | 10,0  | 57,0  | 0,03 | 4     | Cylindrical | ■              |
| JSE514050F3C.0Z4 | SIRA  | 10053092    | 3            | F          | 4,0  | 6,0  | 14,0  | 57,0  | 0,04 | 4     | Cylindrical | ■              |
| JSE514060D3C.0Z4 | SIRA  | 10053093    | 3            | D          | 5,0  | 6,0  | 18,0  | 57,0  | 0,05 | 4     | Cylindrical | ■              |
| JSE514080D3C.0Z4 | SIRA  | 10053094    | 3            | D          | 6,0  | 6,0  | 20,0  | 63,0  | 0,06 | 4     | Cylindrical | ■              |
| JSE514100D3C.0Z4 | SIRA  | 10053095    | 3            | D          | 8,0  | 8,0  | 28,0  | 80,0  | 0,08 | 4     | Cylindrical | ■              |
| JSE514120D3C.0Z4 | SIRA  | 10053096    | 3            | D          | 10,0 | 10,0 | 35,0  | 89,0  | 0,1  | 4     | Cylindrical | ■              |
| JSE514160D3C.0Z4 | SIRA  | 10053097    | 3            | D          | 12,0 | 12,0 | 42,0  | 100,0 | 0,12 | 4     | Cylindrical | ■              |
| JSE514200D3C.0Z4 | SIRA  | 10053098    | 3            | D          | 16,0 | 16,0 | 50,0  | 115,0 | 0,16 | 4     | Cylindrical | ■              |
| JSE514030F4C.0Z4 | SIRA  | 10201472    | 4            | F          | 20,0 | 20,0 | 60,0  | 125,0 | 0,2  | 4     | Cylindrical | ■              |
| JSE514040F4C.0Z4 | SIRA  | 10201473    | 4            | F          | 3,0  | 6,0  | 15,0  | 57,0  | 0,03 | 4     | Cylindrical | ■              |
| JSE514050F4C.0Z4 | SIRA  | 10201474    | 4            | F          | 4,0  | 6,0  | 20,0  | 63,0  | 0,04 | 4     | Cylindrical | ■              |
| JSE514060D4C.0Z4 | SIRA  | 10201475    | 4            | D          | 5,0  | 6,0  | 25,0  | 75,0  | 0,05 | 4     | Cylindrical | ■              |
| JSE514080D4C.0Z4 | SIRA  | 10201476    | 4            | D          | 6,0  | 6,0  | 30,0  | 75,0  | 0,06 | 4     | Cylindrical | ■              |
| JSE514100D4C.0Z4 | SIRA  | 10201477    | 4            | D          | 8,0  | 8,0  | 40,0  | 87,0  | 0,08 | 4     | Cylindrical | ■              |
| JSE514120D4C.0Z4 | SIRA  | 10201478    | 4            | D          | 10,0 | 10,0 | 50,0  | 104,0 | 0,1  | 4     | Cylindrical | ■              |
| JSE514160D4C.0Z4 | SIRA  | 10201479    | 4            | D          | 12,0 | 12,0 | 60,0  | 125,0 | 0,12 | 4     | Cylindrical | ■              |
| JSE514200D4C.0Z4 | SIRA  | 10201480    | 4            | D          | 16,0 | 16,0 | 80,0  | 150,0 | 0,16 | 4     | Cylindrical | ■              |
| JSE514200D4C.0Z4 | SIRA  | 10201480    | 4            | D          | 20,0 | 20,0 | 100,0 | 170,0 | 0,2  | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

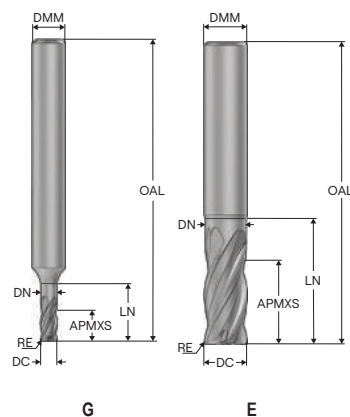
Graphite

X-Heads

Minimaster

## JSE514

General purpose – Universal – Square – 4 Flutes – Cylindrical – Corner radius



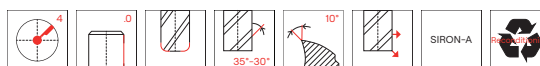
—Tolerances:

—DMM=h5

—DC=e8

—RE= ±0,05 mm

—Regrind possible if DC is ≥Ø10

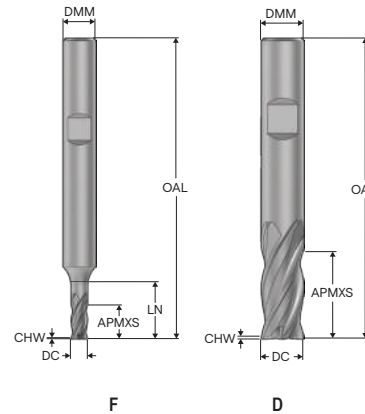


| Designation         | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|---------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
| JSE514030G2R050.0Z4 | SIRA  | 10053071    | 2            | G          | 3,0  | 6,0  | 6,0   | 57,0  | 10,0 | 2,85 | 0,5 | 4     | Cylindrical | ■              |
| JSE514040G2R050.0Z4 | SIRA  | 10053072    | 2            | G          | 4,0  | 6,0  | 8,0   | 57,0  | 13,0 | 3,8  | 0,5 | 4     | Cylindrical | ■              |
| JSE514050G2R050.0Z4 | SIRA  | 10053073    | 2            | G          | 5,0  | 6,0  | 10,0  | 57,0  | 16,0 | 4,75 | 0,5 | 4     | Cylindrical | ■              |
| JSE514060E2R050.0Z4 | SIRA  | 10053074    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,5 | 4     | Cylindrical | ■              |
| JSE514060E2R100.0Z4 | SIRA  | 10053081    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 1,0 | 4     | Cylindrical | ■              |
| JSE514080E2R050.0Z4 | SIRA  | 10053075    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,5 | 4     | Cylindrical | ■              |
| JSE514080E2R100.0Z4 | SIRA  | 10053082    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 1,0 | 4     | Cylindrical | ■              |
| JSE514100E2R050.0Z4 | SIRA  | 10053076    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,5 | 4     | Cylindrical | ■              |
| JSE514100E2R100.0Z4 | SIRA  | 10053083    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 1,0 | 4     | Cylindrical | ■              |
| JSE514120E2R050.0Z4 | SIRA  | 10053077    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,5 | 4     | Cylindrical | ■              |
| JSE514120E2R100.0Z4 | SIRA  | 10053084    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 1,0 | 4     | Cylindrical | ■              |
| JSE514160E2R050.0Z4 | SIRA  | 10053078    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,5 | 4     | Cylindrical | ■              |
| JSE514160E2R100.0Z4 | SIRA  | 10053087    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 1,0 | 4     | Cylindrical | ■              |
| JSE514200E2R050.0Z4 | SIRA  | 10053079    | 2            | E          | 20,0 | 20,0 | 35,0  | 104,0 | 51,0 | 19,0 | 0,5 | 4     | Cylindrical | ■              |
| JSE514200E2R100.0Z4 | SIRA  | 10053088    | 2            | E          | 20,0 | 20,0 | 35,0  | 104,0 | 51,0 | 19,0 | 1,0 | 4     | Cylindrical | ■              |
| JSE514250E2R050.0Z4 | SIRA  | 10053080    | 2            | E          | 25,0 | 25,0 | 40,0  | 125,0 | 66,0 | 23,8 | 0,5 | 4     | Cylindrical | ■              |

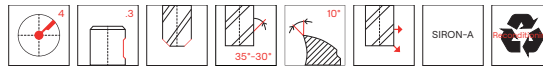
■ Stocked standard.

## JSE514

General purpose – Universal – Square – 4 Flutes – Weldon – chamfer



- Tolerances:
- DMM=h5
- DC=e8
- Regrind possible if DC is  $\geq \varnothing 10$



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW  | PCEDC | Shank  | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|-------|--------|----------------|
| JSE514020F2C.3Z4 | SIRA  | 10053289    | 2            | F          | mm   | mm   | mm    | mm    | mm   |       |        |                |
| JSE514030F2C.3Z4 | SIRA  | 10053290    | 2            | F          | 2,0  | 6,0  | 4,0   | 57,0  | 0,02 | 4     | Weldon | ■              |
| JSE514040F2C.3Z4 | SIRA  | 10053291    | 2            | F          | 3,0  | 6,0  | 6,0   | 57,0  | 0,03 | 4     | Weldon | ■              |
| JSE514050F2C.3Z4 | SIRA  | 10053292    | 2            | F          | 4,0  | 6,0  | 8,0   | 57,0  | 0,04 | 4     | Weldon | ■              |
| JSE514060D2C.3Z4 | SIRA  | 10053293    | 2            | D          | 5,0  | 6,0  | 10,0  | 57,0  | 0,05 | 4     | Weldon | ■              |
| JSE514080D2C.3Z4 | SIRA  | 10053294    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | 0,06 | 4     | Weldon | ■              |
| JSE514100D2C.3Z4 | SIRA  | 10053295    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | 0,08 | 4     | Weldon | ■              |
| JSE514120D2C.3Z4 | SIRA  | 10053296    | 2            | D          | 10,0 | 10,0 | 20,0  | 72,0  | 0,1  | 4     | Weldon | ■              |
| JSE514160D2C.3Z4 | SIRA  | 10053297    | 2            | D          | 12,0 | 12,0 | 24,0  | 83,0  | 0,12 | 4     | Weldon | ■              |
| JSE514180D2C.3Z4 | SIRA  | 10053298    | 2            | D          | 16,0 | 16,0 | 32,0  | 92,0  | 0,16 | 4     | Weldon | ■              |
| JSE514200D2C.3Z4 | SIRA  | 10053299    | 2            | D          | 18,0 | 18,0 | 35,0  | 100,0 | 0,18 | 4     | Weldon | ■              |
| JSE514250D2C.3Z4 | SIRA  | 10053300    | 2            | D          | 20,0 | 20,0 | 35,0  | 104,0 | 0,2  | 4     | Weldon | ■              |
| JSE514030F3C.3Z4 | SIRA  | 10053321    | 3            | F          | 25,0 | 25,0 | 40,0  | 125,0 | 0,25 | 4     | Weldon | ■              |
| JSE514040F3C.3Z4 | SIRA  | 10053322    | 3            | F          | 3,0  | 6,0  | 10,0  | 57,0  | 0,03 | 4     | Weldon | ■              |
| JSE514050F3C.3Z4 | SIRA  | 10053323    | 3            | F          | 4,0  | 6,0  | 14,0  | 57,0  | 0,04 | 4     | Weldon | ■              |
| JSE514060D3C.3Z4 | SIRA  | 10053324    | 3            | F          | 5,0  | 6,0  | 18,0  | 57,0  | 0,05 | 4     | Weldon | ■              |
| JSE514080D3C.3Z4 | SIRA  | 10053325    | 3            | D          | 6,0  | 6,0  | 20,0  | 63,0  | 0,06 | 4     | Weldon | ■              |
| JSE514100D3C.3Z4 | SIRA  | 10053326    | 3            | D          | 8,0  | 8,0  | 28,0  | 80,0  | 0,08 | 4     | Weldon | ■              |
| JSE514120D3C.3Z4 | SIRA  | 10053327    | 3            | D          | 10,0 | 10,0 | 35,0  | 89,0  | 0,1  | 4     | Weldon | ■              |
| JSE514160D3C.3Z4 | SIRA  | 10053328    | 3            | D          | 12,0 | 12,0 | 42,0  | 100,0 | 0,12 | 4     | Weldon | ■              |
| JSE514200D3C.3Z4 | SIRA  | 10053329    | 3            | D          | 16,0 | 16,0 | 50,0  | 115,0 | 0,16 | 4     | Weldon | ■              |
| JSE514030F4C.3Z4 | SIRA  | 10201481    | 4            | F          | 20,0 | 20,0 | 60,0  | 125,0 | 0,2  | 4     | Weldon | ■              |
| JSE514040F4C.3Z4 | SIRA  | 10201482    | 4            | F          | 3,0  | 6,0  | 15,0  | 57,0  | 0,03 | 4     | Weldon | □              |
| JSE514050F4C.3Z4 | SIRA  | 10201483    | 4            | F          | 4,0  | 6,0  | 20,0  | 63,0  | 0,04 | 4     | Weldon | □              |
| JSE514060D4C.3Z4 | SIRA  | 10201484    | 4            | F          | 5,0  | 6,0  | 25,0  | 75,0  | 0,05 | 4     | Weldon | □              |
| JSE514080D4C.3Z4 | SIRA  | 10201485    | 4            | D          | 6,0  | 6,0  | 30,0  | 75,0  | 0,06 | 4     | Weldon | □              |
| JSE514100D4C.3Z4 | SIRA  | 10201486    | 4            | D          | 8,0  | 8,0  | 40,0  | 87,0  | 0,08 | 4     | Weldon | □              |
| JSE514120D4C.3Z4 | SIRA  | 10201487    | 4            | D          | 10,0 | 10,0 | 50,0  | 104,0 | 0,1  | 4     | Weldon | □              |
| JSE514160D4C.3Z4 | SIRA  | 10201488    | 4            | D          | 12,0 | 12,0 | 60,0  | 125,0 | 0,12 | 4     | Weldon | □              |
| JSE514200D4C.3Z4 | SIRA  | 10201489    | 4            | D          | 16,0 | 16,0 | 80,0  | 150,0 | 0,16 | 4     | Weldon | □              |
| JSE514200D4C.3Z4 | SIRA  | 10201489    | 4            | D          | 20,0 | 20,0 | 100,0 | 170,0 | 0,2  | 4     | Weldon | □              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

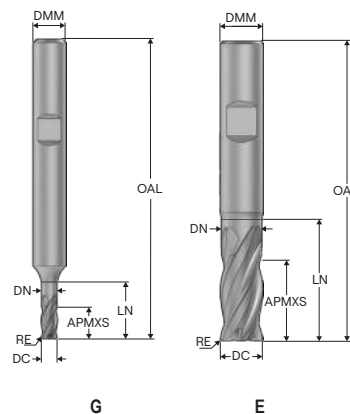
Graphite

X-Heads

Minimaster

## JSE514

General purpose – Universal – Square – 4 Flutes – Weldon – Corner radius



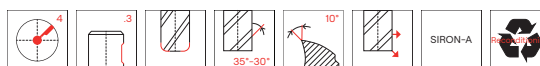
—Tolerances:

—DMM=h5

—DC=e8

—RE= ±0,05 mm

—Regrind possible if DC is ≥Ø10



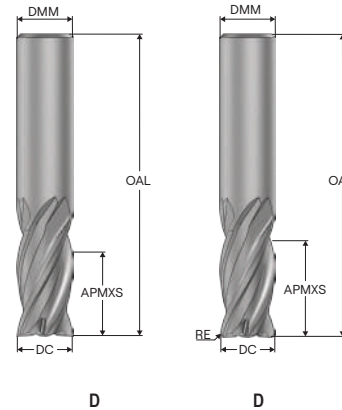
| Designation         | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank  | Stock standard |
|---------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|--------|----------------|
| JSE514030G2R050.3Z4 | SIRA  | 10053301    | 2            | G          | 3,0  | 6,0  | 6,0   | 57,0  | 10,0 | 2,85 | 0,5 | 4     | Weldon | ■              |
| JSE514040G2R050.3Z4 | SIRA  | 10053302    | 2            | G          | 4,0  | 6,0  | 8,0   | 57,0  | 13,0 | 3,8  | 0,5 | 4     | Weldon | ■              |
| JSE514050G2R050.3Z4 | SIRA  | 10053306    | 2            | G          | 5,0  | 6,0  | 10,0  | 57,0  | 16,0 | 4,75 | 0,5 | 4     | Weldon | ■              |
| JSE514060E2R050.3Z4 | SIRA  | 10053307    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,5 | 4     | Weldon | ■              |
| JSE514060E2R100.3Z4 | SIRA  | 10053314    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 1,0 | 4     | Weldon | ■              |
| JSE514080E2R050.3Z4 | SIRA  | 10053308    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,5 | 4     | Weldon | ■              |
| JSE514080E2R100.3Z4 | SIRA  | 10053315    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 1,0 | 4     | Weldon | ■              |
| JSE514100E2R050.3Z4 | SIRA  | 10053309    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,5 | 4     | Weldon | ■              |
| JSE514100E2R100.3Z4 | SIRA  | 10053316    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 1,0 | 4     | Weldon | ■              |
| JSE514120E2R050.3Z4 | SIRA  | 10053310    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,5 | 4     | Weldon | ■              |
| JSE514120E2R100.3Z4 | SIRA  | 10053317    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 1,0 | 4     | Weldon | ■              |
| JSE514160E2R050.3Z4 | SIRA  | 10053311    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,5 | 4     | Weldon | ■              |
| JSE514160E2R100.3Z4 | SIRA  | 10053318    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 1,0 | 4     | Weldon | ■              |
| JSE514200E2R050.3Z4 | SIRA  | 10053312    | 2            | E          | 20,0 | 20,0 | 35,0  | 104,0 | 51,0 | 19,0 | 0,5 | 4     | Weldon | ■              |
| JSE514200E2R100.3Z4 | SIRA  | 10053319    | 2            | E          | 20,0 | 20,0 | 35,0  | 104,0 | 51,0 | 19,0 | 1,0 | 4     | Weldon | ■              |
| JSE514250E2R050.3Z4 | SIRA  | 10053313    | 2            | E          | 25,0 | 25,0 | 40,0  | 125,0 | 66,0 | 23,8 | 0,5 | 4     | Weldon | ■              |

■ Stocked standard.

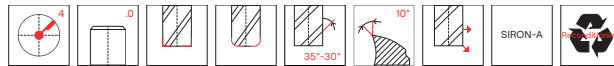


## JSE514

General purpose – Universal – Square – 4 Flutes – Cylindrical – Sharp or corner radius – Inch



- Tolerances:
- DMM=h5
- DC=e8
- RE= ±.002 Inch
- Regrind possible if DC is ≥Ø.375



| Designation          | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| JSE514.250D1S.0Z4    | SIRA  | 10201805    | 1            | D          | inch  | inch  | inch  | inch  | inch  | 4     | Cylindrical | ■              |
| JSE514.250D1R030.0Z4 | SIRA  | 10201812    | 1            | D          | 0.250 | 0.250 | 0.375 | 2.000 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.375D1S.0Z4    | SIRA  | 10201806    | 1            | D          | 0.375 | 0.375 | 0.500 | 2.000 | —     | 4     | Cylindrical | ■              |
| JSE514.375D1R030.0Z4 | SIRA  | 10201813    | 1            | D          | 0.375 | 0.375 | 0.500 | 2.000 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.500D1S.0Z4    | SIRA  | 10201807    | 1            | D          | 0.500 | 0.500 | 0.625 | 2.500 | —     | 4     | Cylindrical | ■              |
| JSE514.500D1R030.0Z4 | SIRA  | 10201814    | 1            | D          | 0.500 | 0.500 | 0.625 | 2.500 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.500D1R060.0Z4 | SIRA  | 10201815    | 1            | D          | 0.500 | 0.500 | 0.625 | 2.500 | 0.060 | 4     | Cylindrical | ■              |
| JSE514.625D1S.0Z4    | SIRA  | 10201808    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | —     | 4     | Cylindrical | ■              |
| JSE514.625D1R030.0Z4 | SIRA  | 10201816    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.625D1R060.0Z4 | SIRA  | 10201817    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 0.060 | 4     | Cylindrical | ■              |
| JSE514.750D1S.0Z4    | SIRA  | 10201809    | 1            | D          | 0.750 | 0.750 | 0.875 | 3.000 | —     | 4     | Cylindrical | ■              |
| JSE514.750D1R030.0Z4 | SIRA  | 10201818    | 1            | D          | 0.750 | 0.750 | 0.875 | 3.000 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.750D1R060.0Z4 | SIRA  | 10201819    | 1            | D          | 0.750 | 0.750 | 0.875 | 3.000 | 0.060 | 4     | Cylindrical | ■              |
| JSE514.125D2S.0Z4    | SIRA  | 10201803    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | —     | 4     | Cylindrical | ■              |
| JSE514.125D2R015.0Z4 | SIRA  | 10201810    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 0.015 | 4     | Cylindrical | ■              |
| JSE514.188D2S.0Z4    | SIRA  | 10201804    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | —     | 4     | Cylindrical | ■              |
| JSE514.188D2R020.0Z4 | SIRA  | 10201811    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 0.020 | 4     | Cylindrical | ■              |
| JSE514.250D2S.0Z4    | SIRA  | 10201822    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.000 | —     | 4     | Cylindrical | ■              |
| JSE514.250D2R030.0Z4 | SIRA  | 10201829    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.000 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.375D2S.0Z4    | SIRA  | 10201823    | 2            | D          | 0.375 | 0.375 | 0.625 | 2.000 | —     | 4     | Cylindrical | ■              |
| JSE514.375D2R030.0Z4 | SIRA  | 10201830    | 2            | D          | 0.375 | 0.375 | 0.625 | 2.000 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.500D2S.0Z4    | SIRA  | 10201824    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | —     | 4     | Cylindrical | ■              |
| JSE514.500D2R030.0Z4 | SIRA  | 10201831    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.500D2R060.0Z4 | SIRA  | 10201832    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.060 | 4     | Cylindrical | ■              |
| JSE514.625D2S.0Z4    | SIRA  | 10201825    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | —     | 4     | Cylindrical | ■              |
| JSE514.625D2R030.0Z4 | SIRA  | 10201833    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.625D2R060.0Z4 | SIRA  | 10201834    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.060 | 4     | Cylindrical | ■              |
| JSE514.750D2S.0Z4    | SIRA  | 10201826    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | —     | 4     | Cylindrical | ■              |
| JSE514.750D2R030.0Z4 | SIRA  | 10201835    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.750D2R060.0Z4 | SIRA  | 10201836    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.060 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

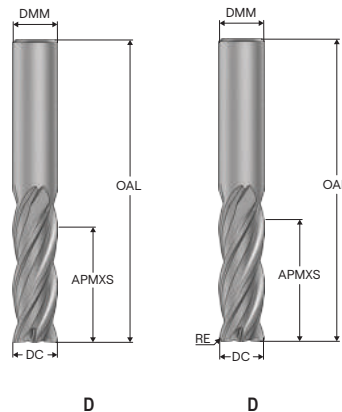
Graphite

X-Heads

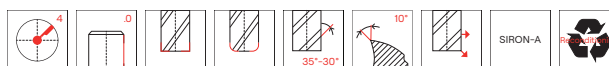
Minimaster

## JSE514

General purpose – Universal – Square – 4 Flutes – Cylindrical – Sharp or corner radius – Inch



—Tolerances:  
—DMM=h5  
—DC=e8  
—RE= ±0.002 Inch  
—Regrind possible if DC is ≥Ø.375



| Designation          | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| JSE514.125D3S.0Z4    | SIRA  | 10201820    | 3            | D          | 0.125 | 0.125 | 0.500 | 1.500 | —     | 4     | Cylindrical | ■              |
| JSE514.125D3R015.0Z4 | SIRA  | 10201827    | 3            | D          | 0.125 | 0.125 | 0.500 | 1.500 | 0.015 | 4     | Cylindrical | ■              |
| JSE514.188D3S.0Z4    | SIRA  | 10201821    | 3            | D          | 0.188 | 0.188 | 0.625 | 2.000 | —     | 4     | Cylindrical | ■              |
| JSE514.188D3R020.0Z4 | SIRA  | 10201828    | 3            | D          | 0.188 | 0.188 | 0.625 | 2.000 | 0.020 | 4     | Cylindrical | ■              |
| JSE514.250D3S.0Z4    | SIRA  | 10201837    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | —     | 4     | Cylindrical | ■              |
| JSE514.250D3R030.0Z4 | SIRA  | 10201842    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.375D3S.0Z4    | SIRA  | 10201838    | 3            | D          | 0.375 | 0.375 | 1.000 | 2.500 | —     | 4     | Cylindrical | ■              |
| JSE514.375D3R030.0Z4 | SIRA  | 10201843    | 3            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.500D3S.0Z4    | SIRA  | 10201839    | 3            | D          | 0.500 | 0.500 | 2.000 | 4.000 | —     | 4     | Cylindrical | ■              |
| JSE514.500D3R030.0Z4 | SIRA  | 10201844    | 3            | D          | 0.500 | 0.500 | 2.000 | 4.000 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.500D3R060.0Z4 | SIRA  | 10201845    | 3            | D          | 0.500 | 0.500 | 2.000 | 4.000 | 0.060 | 4     | Cylindrical | ■              |
| JSE514.625D3S.0Z4    | SIRA  | 10201840    | 3            | D          | 0.625 | 0.625 | 2.250 | 5.000 | —     | 4     | Cylindrical | ■              |
| JSE514.625D3R030.0Z4 | SIRA  | 10201846    | 3            | D          | 0.625 | 0.625 | 2.250 | 5.000 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.625D3R060.0Z4 | SIRA  | 10201847    | 3            | D          | 0.625 | 0.625 | 2.250 | 5.000 | 0.060 | 4     | Cylindrical | ■              |
| JSE514.750D3S.0Z4    | SIRA  | 10201841    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | —     | 4     | Cylindrical | ■              |
| JSE514.750D3R030.0Z4 | SIRA  | 10201848    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 0.030 | 4     | Cylindrical | ■              |
| JSE514.750D3R060.0Z4 | SIRA  | 10201849    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 0.060 | 4     | Cylindrical | ■              |

■ Stocked standard.



## Cutting data – JSE514 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>   |                  |                  |                 |                 |                 |                 |                 |                 |                 |                |                | v <sub>c</sub>                        |                                 |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                    |                    | 2                | 3                | 4                | 5               | 6               | 8               | 10              | 12              | 16              | 18              | 20             | 25             |                                       |                                 |
| P1  | M/A/D/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 165 (69 — 200)<br>540 (230 — 650)     | Universal                       |
| P2  | M/A/D/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.014<br>0.00055 | 0.020<br>0.00080 | 0.028<br>0.0011  | 0.034<br>0.0013 | 0.040<br>0.0016 | 0.055<br>0.0022 | 0.070<br>0.0028 | 0.080<br>0.0032 | 0.10<br>0.0040  | 0.11<br>0.0044  | 0.11<br>0.0044 | 0.13<br>0.0050 | 160 (67 — 190)<br>520 (220 — 620)     |                                 |
| P3  | M/A/D/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 165 (69 — 200)<br>540 (230 — 650)     | Steel and cast iron             |
| P4  | M/A/D/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 165 (69 — 200)<br>540 (230 — 650)     |                                 |
| P5  | M/A/D/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 165 (69 — 200)<br>540 (230 — 650)     | Steel and cast iron             |
| P6  | M/A/D/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 165 (69 — 200)<br>540 (230 — 650)     |                                 |
| P7  | M/A/D/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 165 (69 — 200)<br>540 (230 — 650)     | Stainless steel and S-materials |
| P8  | M/A/D/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 165 (69 — 200)<br>540 (230 — 650)     |                                 |
| P11 | M/A/D/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 95 (69 — 130)<br>310 (230 — 420)      | Stainless steel and S-materials |
| P12 | M/A/D/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 95 (69 — 130)<br>310 (230 — 420)      |                                 |
| M1  | E/M/A                                                                             | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 95 (69 — 130)<br>310 (230 — 420)      | Non ferrous                     |
| M2  | E/M/A                                                                             | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 95 (69 — 130)<br>310 (230 — 420)      |                                 |
| M3  | E/M/A                                                                             | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 95 (69 — 130)<br>310 (230 — 420)      | Non ferrous                     |
| M4  | E/M/A                                                                             | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 95 (69 — 130)<br>310 (230 — 420)      |                                 |
| M5  | E/M/A                                                                             | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 95 (69 — 130)<br>310 (230 — 420)      | Hard                            |
| K1  | A/D/M/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 165 (69 — 200)<br>540 (230 — 650)     |                                 |
| K2  | A/D/M/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 165 (69 — 200)<br>540 (230 — 650)     | Hard                            |
| K3  | A/D/M/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 165 (69 — 200)<br>540 (230 — 650)     |                                 |
| K4  | A/D/M/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 165 (69 — 200)<br>540 (230 — 650)     | Plastic and cf/p                |
| K5  | A/D/M/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 165 (69 — 200)<br>540 (230 — 650)     |                                 |
| K6  | A/D/M/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 165 (69 — 200)<br>540 (230 — 650)     | Plastic and cf/p                |
| K7  | A/D/M/E                                                                           | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 165 (69 — 200)<br>540 (230 — 650)     |                                 |
| N1  | E/M/A                                                                             | 0.150<br>0.150     | 1.5<br>1.5         | 0.015<br>0.00060 | 0.024<br>0.00095 | 0.030<br>0.0012  | 0.038<br>0.0015 | 0.046<br>0.0018 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.11<br>0.0044  | 0.12<br>0.0048  | 0.13<br>0.0050 | 0.15<br>0.0060 | 520 (400 — 650)<br>1700 (1400 — 2100) | Graphite                        |
| N11 | E/M/A                                                                             | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 410 (280 — 540)<br>1350 (920 — 1700)  |                                 |
| S11 | E                                                                                 | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 95 (69 — 130)<br>310 (230 — 420)      | X-Heads                         |
| S12 | E                                                                                 | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 95 (69 — 130)<br>310 (230 — 420)      |                                 |
| S13 | E                                                                                 | 0.150<br>0.150     | 1.5<br>1.5         | 0.012<br>0.00048 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 95 (69 — 130)<br>310 (230 — 420)      | Minimaster                      |
|     |                                                                                   |                    |                    |                  |                  |                  |                 |                 |                 |                 |                 |                 |                 |                |                |                                       |                                 |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |         |        |        |        |        |        |        | v <sub>c</sub>    |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|--------|-------------------|
|     |                                                                                   |                    | 2              | 3       | 4       | 5       | 6       | 8       | 10     | 12     | 16     | 18     | 20     | 25     |                   |
| P1  | M/A/D/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (51 — 150)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 490)   |
| P2  | M/A/D/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (51 — 150)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 490)   |
| P3  | M/A/D/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (51 — 150)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 490)   |
| P4  | M/A/D/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (50 — 140)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 450)   |
| P5  | M/A/D/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (51 — 150)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 490)   |
| P6  | M/A/D/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (50 — 140)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 450)   |
| P7  | M/A/D/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (51 — 150)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 490)   |
| P8  | M/A/D/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (51 — 150)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 490)   |
| P11 | M/A/D/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 70 (51 — 100)     |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 230 (170 — 320)   |
| P12 | M/A/D/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 70 (50 — 99)      |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 230 (170 — 320)   |
| M1  | E/M/A                                                                             | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 70 (50 — 99)      |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 230 (170 — 320)   |
| M2  | E/M/A                                                                             | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 70 (50 — 99)      |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 230 (170 — 320)   |
| M3  | E/M/A                                                                             | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 70 (50 — 99)      |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 230 (170 — 320)   |
| M4  | E/M/A                                                                             | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 70 (50 — 99)      |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 230 (170 — 320)   |
| M5  | E/M/A                                                                             | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 70 (50 — 99)      |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 230 (170 — 320)   |
| K1  | A/D/M/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (50 — 150)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 490)   |
| K2  | A/D/M/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (50 — 150)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 490)   |
| K3  | A/D/M/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (50 — 150)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 490)   |
| K4  | A/D/M/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (50 — 150)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 490)   |
| K5  | A/D/M/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (50 — 150)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 490)   |
| K6  | A/D/M/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (50 — 150)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 490)   |
| K7  | A/D/M/E                                                                           | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 120 (50 — 150)    |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 395 (170 — 490)   |
| N1  | E/M/A                                                                             | 0.30               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 400 (300 — 500)   |
|     |                                                                                   | 0.30               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 1300 (990 — 1600) |
| N11 | E/M/A                                                                             | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 300 (200 — 390)   |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 980 (660 — 1200)  |
| S11 | E                                                                                 | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 70 (50 — 99)      |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 230 (170 — 320)   |
| S12 | E                                                                                 | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 70 (50 — 99)      |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 230 (170 — 320)   |
| S13 | E                                                                                 | 0.40               | 0.0060         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.055  | 0.060  | 0.075  | 70 (50 — 99)      |
|     |                                                                                   | 0.40               | 0.00024        | 0.00036 | 0.00048 | 0.00060 | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0022 | 0.0024 | 0.0030 | 230 (170 — 320)   |

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

## Cutting data – JS514 Side milling – Inch

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>   |                 |                 |                 |                 |                 |                | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|---------------------------------------|
|     |                                                                                   |                    |                    | 1/8              | 3/16            | 1.4             | 3/8             | 1/2             | 5/8             | 3/4            |                                       |
| P1  | M/A/D/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 165 (69 — 200)<br>540 (230 — 650)     |
| P2  | M/A/D/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,022<br>0,00085 | 0,032<br>0,0013 | 0,042<br>0,0017 | 0,065<br>0,0026 | 0,085<br>0,0034 | 0,10<br>0,0040  | 0,11<br>0,0044 | 160 (67 — 200)<br>520 (220 — 650)     |
| P3  | M/A/D/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 165 (68 — 200)<br>540 (230 — 650)     |
| P4  | M/A/D/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 165 (68 — 200)<br>540 (230 — 650)     |
| P5  | M/A/D/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 165 (68 — 200)<br>540 (230 — 650)     |
| P6  | M/A/D/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 165 (68 — 200)<br>540 (230 — 650)     |
| P7  | M/A/D/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 165 (68 — 200)<br>540 (230 — 650)     |
| P8  | M/A/D/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 165 (68 — 200)<br>540 (230 — 650)     |
| P11 | M/A/D/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 95 (68 — 130)<br>310 (230 — 420)      |
| P12 | M/A/D/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 95 (68 — 130)<br>310 (230 — 420)      |
| M1  | E/M/A                                                                             | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 95 (68 — 130)<br>310 (230 — 420)      |
| M2  | E/M/A                                                                             | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 95 (68 — 130)<br>310 (230 — 420)      |
| M3  | E/M/A                                                                             | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 95 (68 — 130)<br>310 (230 — 420)      |
| M4  | E/M/A                                                                             | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 95 (68 — 130)<br>310 (230 — 420)      |
| M5  | E/M/A                                                                             | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 95 (68 — 130)<br>310 (230 — 420)      |
| K1  | A/D/M/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 165 (68 — 200)<br>540 (230 — 650)     |
| K2  | A/D/M/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 165 (68 — 200)<br>540 (230 — 650)     |
| K3  | A/D/M/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 165 (68 — 200)<br>540 (230 — 650)     |
| K4  | A/D/M/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 165 (68 — 200)<br>540 (230 — 650)     |
| K5  | A/D/M/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 165 (68 — 200)<br>540 (230 — 650)     |
| K6  | A/D/M/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 165 (68 — 200)<br>540 (230 — 650)     |
| K7  | A/D/M/E                                                                           | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 165 (68 — 200)<br>540 (230 — 650)     |
| N1  | E/M/A                                                                             | 0,15<br>0,15       | 1,2<br>1,2         | 0,025<br>0,0010  | 0,036<br>0,0014 | 0,050<br>0,0020 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,13<br>0,0050 | 520 (400 — 650)<br>1700 (1400 — 2100) |
| N11 | E/M/A                                                                             | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 410 (280 — 540)<br>1350 (920 — 1700)  |
| S11 | E                                                                                 | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 95 (68 — 130)<br>310 (230 — 420)      |
| S12 | E                                                                                 | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 95 (68 — 130)<br>310 (230 — 420)      |
| S13 | E                                                                                 | 0,15<br>0,15       | 1,2<br>1,2         | 0,019<br>0,00075 | 0,028<br>0,0011 | 0,038<br>0,0015 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040 | 95 (68 — 130)<br>310 (230 — 420)      |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cf/p

Graphite

X-Heads

Minimaster

## Cutting data – JS514 Slot milling – Inch

| SMG |  | $a_p$ /DC    | $f_z$             |                  |                  |                 |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|--------------|-------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |              | 1/8               | 3/16             | 1/4              | 3/8             | 1/2             | 5/8             | 3/4             |                                       |
| P1  | M/A/D/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| P2  | M/A/D/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| P3  | M/A/D/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| P4  | M/A/D/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| P5  | M/A/D/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| P6  | M/A/D/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| P7  | M/A/D/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| P8  | M/A/D/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| P11 | M/A/D/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 70 (51 — 100)<br>230 (170 — 320)      |
| P12 | M/A/D/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 70 (51 — 100)<br>230 (170 — 320)      |
| M1  | E/M/A                                                                             | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 70 (51 — 100)<br>230 (170 — 320)      |
| M2  | E/M/A                                                                             | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 70 (51 — 100)<br>230 (170 — 320)      |
| M3  | E/M/A                                                                             | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 70 (51 — 100)<br>230 (170 — 320)      |
| M4  | E/M/A                                                                             | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 70 (51 — 100)<br>230 (170 — 320)      |
| M5  | E/M/A                                                                             | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 70 (51 — 100)<br>230 (170 — 320)      |
| K1  | A/D/M/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| K2  | A/D/M/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| K3  | A/D/M/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| K4  | A/D/M/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| K5  | A/D/M/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| K6  | A/D/M/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| K7  | A/D/M/E                                                                           | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 120 (51 — 150)<br>395 (170 — 490)     |
| N1  | E/M/A                                                                             | 0.30<br>0.30 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 400 (310 — 500)<br>1300 (1100 — 1600) |
| N11 | E/M/A                                                                             | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 300 (210 — 400)<br>980 (690 — 1300)   |
| S11 | E                                                                                 | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 70 (51 — 100)<br>230 (170 — 320)      |
| S12 | E                                                                                 | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 70 (51 — 100)<br>230 (170 — 320)      |
| S13 | E                                                                                 | 0.40<br>0.40 | 0.0095<br>0.00038 | 0.014<br>0.00055 | 0.019<br>0.00075 | 0.028<br>0.0011 | 0.038<br>0.0015 | 0.048<br>0.0019 | 0.055<br>0.0022 | 70 (51 — 100)<br>230 (170 — 320)      |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

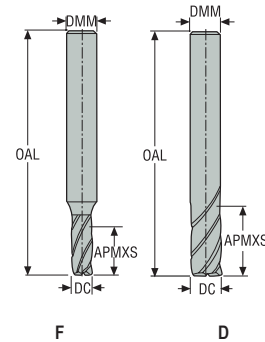
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

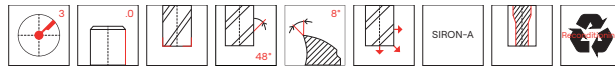
All cutting data are target values

JS553

High performance – Universal – Square – 3 Flutes – Cylindrical – Sharp



- Tolerances:
- DMM=h5
- DC=e7
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|------|-------|-------------|----------------|
| 553020SZ3.0-SIRON-A | 02733903    | 2            | F          | mm   | mm   | mm    | mm   | 3     | Cylindrical | ■              |
| 553030SZ3.0-SIRON-A | 02733906    | 2            | F          | 2,0  | 6,0  | 5,0   | 50,0 | 3     | Cylindrical | ■              |
| 553040SZ3.0-SIRON-A | 02733910    | 2            | F          | 3,0  | 6,0  | 7,0   | 50,0 | 3     | Cylindrical | ■              |
| 553050SZ3.0-SIRON-A | 02733912    | 2            | F          | 4,0  | 6,0  | 10,0  | 55,0 | 3     | Cylindrical | ■              |
| 553060SZ3.0-SIRON-A | 02733914    | 2            | F          | 5,0  | 6,0  | 12,0  | 55,0 | 3     | Cylindrical | ■              |
| 553080SZ3.0-SIRON-A | 02733918    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0 | 3     | Cylindrical | ■              |
| 553100SZ3.0-SIRON-A | 02733922    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0 | 3     | Cylindrical | ■              |
| 553100SZ3.0-SIRON-A | 02733922    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0 | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

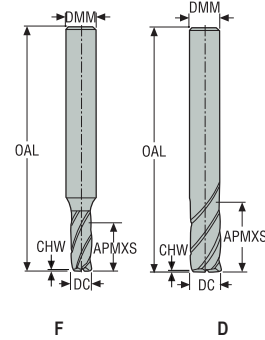
Graphite

X-Heads

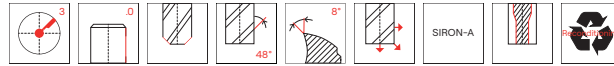
Minimaster

## JS553

High performance – Universal – Square – 3 Flutes – Cylindrical – Chamfer



—Tolerances:  
—DMM= h5  
—DC= e7  
—Reground possible if DC is  $\geq \varnothing 6$

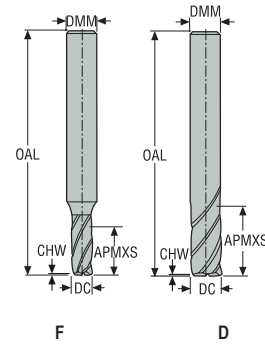


| Designation          | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|------|------|-------|-------|-------|-------|-------------|----------------|
| JS553020F1C.0Z3-SIRA | 10041466    | 1            | F          | mm   | mm   | mm    | mm    | mm    |       |             |                |
|                      |             |              |            | 2,0  | 6,0  | 3,0   | 40,0  | 0,025 | 3     | Cylindrical | ■              |
| JS553030F1C.0Z3-SIRA | 10041467    | 1            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 3,0  | 6,0  | 4,0   | 40,0  | 0,035 | 3     | Cylindrical | ■              |
| JS553040F1C.0Z3-SIRA | 10041468    | 1            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 4,0  | 6,0  | 6,0   | 40,0  | 0,045 | 3     | Cylindrical | ■              |
| JS553045F1C.0Z3-SIRA | 10041469    | 1            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 4,5  | 6,0  | 6,0   | 40,0  | 0,045 | 3     | Cylindrical | ■              |
| JS553050F1C.0Z3-SIRA | 10041470    | 1            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 5,0  | 6,0  | 7,0   | 40,0  | 0,055 | 3     | Cylindrical | ■              |
| JS553055F1C.0Z3-SIRA | 10041472    | 1            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 5,5  | 6,0  | 8,0   | 40,0  | 0,055 | 3     | Cylindrical | ■              |
| JS553060D1C.0Z3-SIRA | 10041473    | 1            | D          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 6,0  | 6,0  | 8,0   | 40,0  | 0,075 | 3     | Cylindrical | ■              |
| JS553080D1C.0Z3-SIRA | 10041474    | 1            | D          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 8,0  | 8,0  | 11,0  | 50,0  | 0,1   | 3     | Cylindrical | ■              |
| JS553100D1C.0Z3-SIRA | 10041475    | 1            | D          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 10,0 | 10,0 | 13,0  | 57,0  | 0,125 | 3     | Cylindrical | ■              |
| JS553120D1C.0Z3-SIRA | 10041476    | 1            | D          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 12,0 | 12,0 | 15,0  | 65,0  | 0,15  | 3     | Cylindrical | ■              |
| 553020Z3.0-SIRON-A   | 02679241    | 2            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 2,0  | 6,0  | 5,0   | 50,0  | 0,025 | 3     | Cylindrical | ■              |
| 553025Z3.0-SIRON-A   | 02679352    | 2            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 2,5  | 6,0  | 7,0   | 50,0  | 0,025 | 3     | Cylindrical | ■              |
| 553030Z3.0-SIRON-A   | 02679353    | 2            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 3,0  | 6,0  | 7,0   | 50,0  | 0,035 | 3     | Cylindrical | ■              |
| 553035Z3.0-SIRON-A   | 02679359    | 2            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 3,5  | 6,0  | 9,0   | 55,0  | 0,035 | 3     | Cylindrical | ■              |
| 553040Z3.0-SIRON-A   | 02679360    | 2            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 4,0  | 6,0  | 10,0  | 55,0  | 0,045 | 3     | Cylindrical | ■              |
| 553045Z3.0-SIRON-A   | 02679361    | 2            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 4,5  | 6,0  | 12,0  | 55,0  | 0,045 | 3     | Cylindrical | ■              |
| 553050Z3.0-SIRON-A   | 02679364    | 2            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 5,0  | 6,0  | 12,0  | 55,0  | 0,055 | 3     | Cylindrical | ■              |
| 553055Z3.0-SIRON-A   | 02679365    | 2            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 5,5  | 6,0  | 14,0  | 55,0  | 0,055 | 3     | Cylindrical | ■              |
| 553060Z3.0-SIRON-A   | 02679368    | 2            | D          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 6,0  | 6,0  | 14,0  | 55,0  | 0,075 | 3     | Cylindrical | ■              |
| 553075Z3.0-SIRON-A   | 02733916    | 2            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 7,5  | 8,0  | 18,0  | 60,0  | 0,1   | 3     | Cylindrical | ■              |
| 553080Z3.0-SIRON-A   | 02679371    | 2            | D          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 8,0  | 8,0  | 18,0  | 60,0  | 0,1   | 3     | Cylindrical | ■              |
| 553095Z3.0-SIRON-A   | 02733920    | 2            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 9,5  | 10,0 | 22,0  | 70,0  | 0,125 | 3     | Cylindrical | ■              |
| 553100Z3.0-SIRON-A   | 02679374    | 2            | D          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 10,0 | 10,0 | 22,0  | 70,0  | 0,125 | 3     | Cylindrical | ■              |
| 553115Z3.0-SIRON-A   | 02733925    | 2            | F          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 11,5 | 12,0 | 26,0  | 80,0  | 0,15  | 3     | Cylindrical | ■              |
| 553120Z3.0-SIRON-A   | 02679380    | 2            | D          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 12,0 | 12,0 | 26,0  | 80,0  | 0,15  | 3     | Cylindrical | ■              |
| 553140Z3.0-SIRON-A   | 02733932    | 2            | D          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 14,0 | 14,0 | 30,0  | 85,0  | 0,175 | 3     | Cylindrical | ■              |
| 553160Z3.0-SIRON-A   | 02679384    | 2            | D          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 16,0 | 16,0 | 34,0  | 90,0  | 0,2   | 3     | Cylindrical | ■              |
| 553200Z3.0-SIRON-A   | 02679389    | 2            | D          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 20,0 | 20,0 | 42,0  | 110,0 | 0,25  | 3     | Cylindrical | ■              |
| 553250Z3.0-SIRON-A   | 02679393    | 2            | D          |      |      |       |       |       |       |             |                |
|                      |             |              |            | 25,0 | 25,0 | 52,0  | 125,0 | 0,3   | 3     | Cylindrical | ■              |

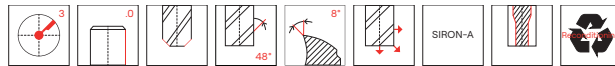
■ Stocked standard.

JS553

High performance – Universal – Square – 3 Flutes – Cylindrical – Chamfer



- Tolerances:
- DMM= h5
- DC= e7
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|-------|-------|-------------|----------------|
| 553L020Z3.0-SIRON-A | 02733962    | 3            | F          | mm   | mm   | mm    | mm    | mm    |       |             |                |
| 553L030Z3.0-SIRON-A | 02733971    | 3            | F          | 2,0  | 6,0  | 7,0   | 50,0  | 0,025 | 3     | Cylindrical | ■              |
| 553L040Z3.0-SIRON-A | 02733972    | 3            | F          | 3,0  | 6,0  | 10,0  | 55,0  | 0,035 | 3     | Cylindrical | ■              |
| 553L050Z3.0-SIRON-A | 02733974    | 3            | F          | 4,0  | 6,0  | 14,0  | 60,0  | 0,045 | 3     | Cylindrical | ■              |
| 553L060Z3.0-SIRON-A | 02733982    | 3            | D          | 5,0  | 6,0  | 18,0  | 60,0  | 0,055 | 3     | Cylindrical | ■              |
| 553L080Z3.0-SIRON-A | 02733986    | 3            | D          | 6,0  | 6,0  | 20,0  | 65,0  | 0,075 | 3     | Cylindrical | ■              |
| 553L100Z3.0-SIRON-A | 02733992    | 3            | D          | 8,0  | 8,0  | 28,0  | 70,0  | 0,1   | 3     | Cylindrical | ■              |
| 553L120Z3.0-SIRON-A | 02733994    | 3            | D          | 10,0 | 10,0 | 35,0  | 85,0  | 0,125 | 3     | Cylindrical | ■              |
| 553L160Z3.0-SIRON-A | 02733996    | 3            | D          | 12,0 | 12,0 | 40,0  | 95,0  | 0,15  | 3     | Cylindrical | ■              |
| 553L200Z3.0-SIRON-A | 02733998    | 3            | D          | 16,0 | 16,0 | 50,0  | 110,0 | 0,2   | 3     | Cylindrical | ■              |
| 553L250Z3.0-SIRON-A | 02734000    | 3            | D          | 20,0 | 20,0 | 60,0  | 125,0 | 0,25  | 3     | Cylindrical | ■              |
| 553L250Z3.0-SIRON-A | 02734000    | 3            | D          | 25,0 | 25,0 | 75,0  | 150,0 | 0,3   | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

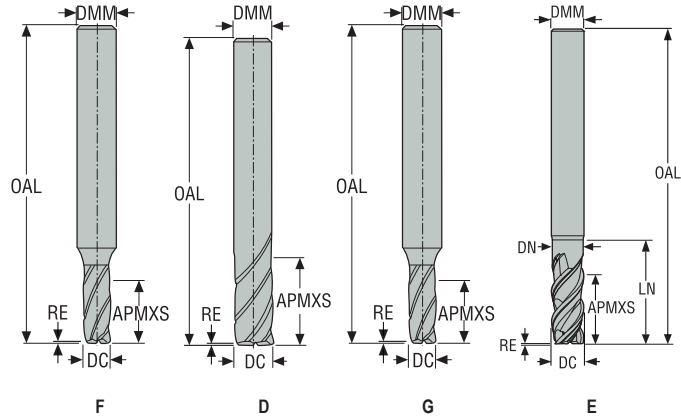
X-Heads

Minimaster

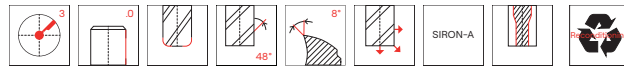


## JS553

High performance – Universal – Square – 3 Flutes – Cylindrical – Corner radius



—Tolerances:  
—DMM=h5  
—DC=e7  
—RE= ±0,02 mm  
—Regrind possible if DC is ≥Ø6



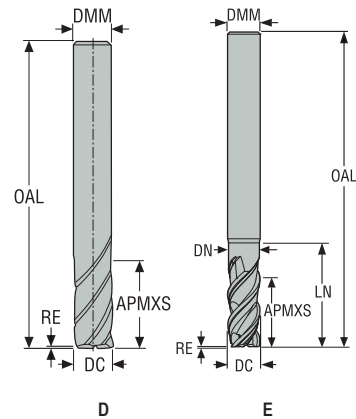
| Designation             | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | LN   | DN   | RE   | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|------|------|-------|------|------|------|------|-------|-------------|----------------|
|                         |             |              |            | mm   | mm   | mm    | mm   | mm   | mm   | mm   |       |             |                |
| JS553020F1R020.0Z3-SIRA | 10194458    | 1            | F          | 2,0  | 6,0  | 3,0   | 40,0 | —    | —    | 0,2  | 3     | Cylindrical | ■              |
| JS553030F1R020.0Z3-SIRA | 10194459    | 1            | F          | 3,0  | 6,0  | 4,0   | 40,0 | —    | —    | 0,2  | 3     | Cylindrical | ■              |
| JS553040F1R020.0Z3-SIRA | 10194460    | 1            | F          | 4,0  | 6,0  | 6,0   | 40,0 | —    | —    | 0,2  | 3     | Cylindrical | ■              |
| JS553050F1R020.0Z3-SIRA | 10194461    | 1            | F          | 5,0  | 6,0  | 7,0   | 40,0 | —    | —    | 0,2  | 3     | Cylindrical | ■              |
| JS553060D1R020.0Z3-SIRA | 10194462    | 1            | D          | 6,0  | 6,0  | 8,0   | 40,0 | —    | —    | 0,2  | 3     | Cylindrical | ■              |
| JS553060D1R050.0Z3-SIRA | 10194463    | 1            | D          | 6,0  | 6,0  | 8,0   | 40,0 | —    | —    | 0,5  | 3     | Cylindrical | ■              |
| JS553080D1R050.0Z3-SIRA | 10194464    | 1            | D          | 8,0  | 8,0  | 11,0  | 50,0 | —    | —    | 0,5  | 3     | Cylindrical | ■              |
| JS553100D1R050.0Z3-SIRA | 10194465    | 1            | D          | 10,0 | 10,0 | 13,0  | 57,0 | —    | —    | 0,5  | 3     | Cylindrical | ■              |
| JS553100D1R100.0Z3-SIRA | 10194466    | 1            | D          | 10,0 | 10,0 | 13,0  | 57,0 | —    | —    | 1,0  | 3     | Cylindrical | ■              |
| JS553120D1R050.0Z3-SIRA | 10194467    | 1            | D          | 12,0 | 12,0 | 15,0  | 65,0 | —    | —    | 0,5  | 3     | Cylindrical | ■              |
| JS553120D1R100.0Z3-SIRA | 10194468    | 1            | D          | 12,0 | 12,0 | 15,0  | 65,0 | —    | —    | 1,0  | 3     | Cylindrical | ■              |
| JS553020G2R050.0Z3-SIRA | 02881683    | 2            | G          | 2,0  | 6,0  | 5,0   | 57,0 | 8,0  | 1,9  | 0,5  | 3     | Cylindrical | ■              |
| 553030R015Z3.0-SIRON-A  | 02733908    | 2            | F          | 3,0  | 6,0  | 7,0   | 50,0 | —    | —    | 0,15 | 3     | Cylindrical | ■              |
| JS553030G2R050.0Z3-SIRA | 02881684    | 2            | G          | 3,0  | 6,0  | 7,0   | 57,0 | 11,0 | 2,85 | 0,5  | 3     | Cylindrical | ■              |
| 553040R020Z3.0-SIRON-A  | 02733911    | 2            | F          | 4,0  | 6,0  | 10,0  | 55,0 | —    | —    | 0,2  | 3     | Cylindrical | ■              |
| JS553040G2R050.0Z3-SIRA | 02881685    | 2            | G          | 4,0  | 6,0  | 10,0  | 57,0 | 13,0 | 3,8  | 0,5  | 3     | Cylindrical | ■              |
| 553050R020Z3.0-SIRON-A  | 02687282    | 2            | F          | 5,0  | 6,0  | 12,0  | 55,0 | —    | —    | 0,2  | 3     | Cylindrical | ■              |
| JS553050G2R050.0Z3-SIRA | 02881686    | 2            | G          | 5,0  | 6,0  | 10,0  | 57,0 | 15,0 | 4,75 | 0,5  | 3     | Cylindrical | ■              |
| 553060R020Z3.0-SIRON-A  | 02679369    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0 | —    | —    | 0,2  | 3     | Cylindrical | ■              |
| JS553060E2R050.0Z3-SIRA | 02881687    | 2            | E          | 6,0  | 6,0  | 14,0  | 57,0 | 19,0 | 5,7  | 0,5  | 3     | Cylindrical | ■              |
| JS553060E2R100.0Z3-SIRA | 02881688    | 2            | E          | 6,0  | 6,0  | 14,0  | 57,0 | 19,0 | 5,7  | 1,0  | 3     | Cylindrical | ■              |
| 553080R050Z3.0-SIRON-A  | 02679372    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0 | —    | —    | 0,5  | 3     | Cylindrical | ■              |
| 553100R050Z3.0-SIRON-A  | 02679375    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0 | —    | —    | 0,5  | 3     | Cylindrical | ■              |
| 553100R100Z3.0-SIRON-A  | 02679376    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0 | —    | —    | 1,0  | 3     | Cylindrical | ■              |
| 553100R200Z3.0-SIRON-A  | 02810364    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0 | —    | —    | 2,0  | 3     | Cylindrical | ■              |
| 553100R250Z3.0-SIRON-A  | 02810365    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0 | —    | —    | 2,5  | 3     | Cylindrical | ■              |
| 553100R310Z3.0-SIRON-A  | 02810366    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0 | —    | —    | 3,1  | 3     | Cylindrical | ■              |
| 553120R050Z3.0-SIRON-A  | 02679381    | 2            | D          | 12,0 | 12,0 | 26,0  | 80,0 | —    | —    | 0,5  | 3     | Cylindrical | ■              |
| 553120R100Z3.0-SIRON-A  | 02679382    | 2            | D          | 12,0 | 12,0 | 26,0  | 80,0 | —    | —    | 1,0  | 3     | Cylindrical | ■              |
| 553120R200Z3.0-SIRON-A  | 02810367    | 2            | D          | 12,0 | 12,0 | 26,0  | 80,0 | —    | —    | 2,0  | 3     | Cylindrical | ■              |
| 553120R250Z3.0-SIRON-A  | 02810368    | 2            | D          | 12,0 | 12,0 | 26,0  | 80,0 | —    | —    | 2,5  | 3     | Cylindrical | ■              |
| 553120R310Z3.0-SIRON-A  | 02810369    | 2            | D          | 12,0 | 12,0 | 26,0  | 80,0 | —    | —    | 3,1  | 3     | Cylindrical | ■              |

■ Stocked standard.

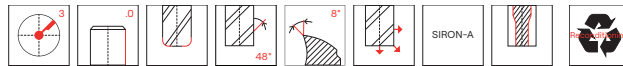


JS553

High performance – Universal – Square – 3 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Regrind possible



| Designation             | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
|                         |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |             |                |
| 553160R050Z3.0-SIRON-A  | 02679385    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 0,5 | 3     | Cylindrical | ■              |
| 553160R100Z3.0-SIRON-A  | 02679386    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 1,0 | 3     | Cylindrical | ■              |
| 553160R200Z3.0-SIRON-A  | 02810370    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 2,0 | 3     | Cylindrical | ■              |
| 553160R250Z3.0-SIRON-A  | 02810371    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 2,5 | 3     | Cylindrical | ■              |
| 553160R310Z3.0-SIRON-A  | 02810372    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 3,1 | 3     | Cylindrical | ■              |
| 553160R400Z3.0-SIRON-A  | 02810373    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 4,0 | 3     | Cylindrical | ■              |
| 553200R050Z3.0-SIRON-A  | 02679390    | 2            | D          | 20,0 | 20,0 | 42,0  | 110,0 | —    | —    | 0,5 | 3     | Cylindrical | ■              |
| 553200R100Z3.0-SIRON-A  | 02679391    | 2            | D          | 20,0 | 20,0 | 42,0  | 110,0 | —    | —    | 1,0 | 3     | Cylindrical | ■              |
| JS553200E2R200.0Z3-SIRA | 02881689    | 2            | E          | 20,0 | 20,0 | 42,0  | 110,0 | 54,0 | 19,0 | 2,0 | 3     | Cylindrical | ■              |
| 553250R050Z3.0-SIRON-A  | 02679395    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | —    | —    | 0,5 | 3     | Cylindrical | ■              |
| 553250R100Z3.0-SIRON-A  | 02679396    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | —    | —    | 1,0 | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

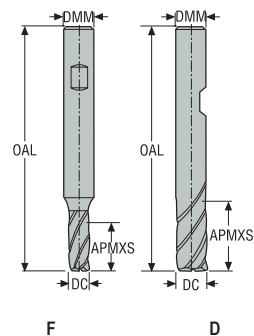
Graphite

X-Heads

Minimaster

## JS553

High performance – Universal – Square – 3 Flutes – Weldon – Sharp



—Tolerances:

—DMM=h5

—DC=e7

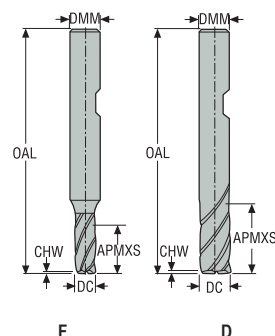
—Regrind possible if DC is  $\geq \varnothing 6$ 


| Designation          | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | PCEDC | Shank  | Stock standard |
|----------------------|-------------|--------------|------------|------|------|-------|------|-------|--------|----------------|
| 553020SZ3.0-SIRON-AW | 02733936    | 2            | F          | mm   | mm   | mm    | mm   |       |        |                |
| 553030SZ3.0-SIRON-AW | 02733939    | 2            | F          | 2,0  | 6,0  | 5,0   | 50,0 | 3     | Weldon | ■              |
| 553040SZ3.0-SIRON-AW | 02733943    | 2            | F          | 3,0  | 6,0  | 7,0   | 50,0 | 3     | Weldon | ■              |
| 553050SZ3.0-SIRON-AW | 02733945    | 2            | F          | 4,0  | 6,0  | 10,0  | 55,0 | 3     | Weldon | ■              |
| 553060SZ3.0-SIRON-AW | 02733946    | 2            | F          | 5,0  | 6,0  | 12,0  | 55,0 | 3     | Weldon | ■              |
| 553080SZ3.0-SIRON-AW | 02733950    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0 | 3     | Weldon | ■              |
| 553100SZ3.0-SIRON-AW | 02733952    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0 | 3     | Weldon | ■              |
| 553100SZ3.0-SIRON-AW | 02733952    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0 | 3     | Weldon | ■              |

■ Stocked standard.

JS553

High performance – Universal – Square – 3 Flutes – Weldon – Chamfer



—Tolerances:

—DMM= h5

—DC= e7

—Regrind possible if DC is  $\geq \emptyset 6$

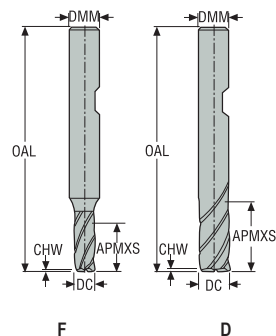


| Designation          | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank  | Stock standard |
|----------------------|-------------|--------------|------------|------|------|-------|-------|-------|-------|--------|----------------|
|                      |             |              |            | mm   | mm   | mm    | mm    | mm    |       |        |                |
| JS553020F1C.3Z3-SIRA | 10041477    | 1            | F          | 2,0  | 6,0  | 3,0   | 40,0  | 0,025 | 3     | Weldon | ■              |
| JS553030F1C.3Z3-SIRA | 10041478    | 1            | F          | 3,0  | 6,0  | 4,0   | 40,0  | 0,035 | 3     | Weldon | ■              |
| JS553040F1C.3Z3-SIRA | 10041479    | 1            | F          | 4,0  | 6,0  | 6,0   | 40,0  | 0,045 | 3     | Weldon | ■              |
| JS553045F1C.3Z3-SIRA | 10041480    | 1            | F          | 4,5  | 6,0  | 6,0   | 40,0  | 0,045 | 3     | Weldon | ■              |
| JS553050F1C.3Z3-SIRA | 10041481    | 1            | F          | 5,0  | 6,0  | 7,0   | 40,0  | 0,055 | 3     | Weldon | ■              |
| JS553055F1C.3Z3-SIRA | 10041482    | 1            | F          | 5,5  | 6,0  | 8,0   | 40,0  | 0,055 | 3     | Weldon | ■              |
| JS553060D1C.3Z3-SIRA | 10041483    | 1            | D          | 6,0  | 6,0  | 8,0   | 40,0  | 0,075 | 3     | Weldon | ■              |
| JS553080D1C.3Z3-SIRA | 10041484    | 1            | D          | 8,0  | 8,0  | 11,0  | 50,0  | 0,1   | 3     | Weldon | □              |
| JS553100D1C.3Z3-SIRA | 10041485    | 1            | D          | 10,0 | 10,0 | 13,0  | 57,0  | 0,125 | 3     | Weldon | □              |
| JS553120D1C.3Z3-SIRA | 10041486    | 1            | D          | 12,0 | 12,0 | 15,0  | 65,0  | 0,15  | 3     | Weldon | □              |
| 553020Z3.0-SIRON-AW  | 02697423    | 2            | F          | 2,0  | 6,0  | 5,0   | 50,0  | 0,025 | 3     | Weldon | □              |
| 553025Z3.0-SIRON-AW  | 02700354    | 2            | F          | 2,5  | 6,0  | 7,0   | 50,0  | 0,025 | 3     | Weldon | ■              |
| 553030Z3.0-SIRON-AW  | 02700355    | 2            | F          | 3,0  | 6,0  | 7,0   | 50,0  | 0,035 | 3     | Weldon | ■              |
| 553035Z3.0-SIRON-AW  | 02700357    | 2            | F          | 3,5  | 6,0  | 9,0   | 55,0  | 0,035 | 3     | Weldon | ■              |
| 553040Z3.0-SIRON-AW  | 02700358    | 2            | F          | 4,0  | 6,0  | 10,0  | 55,0  | 0,045 | 3     | Weldon | ■              |
| 553045Z3.0-SIRON-AW  | 02700359    | 2            | F          | 4,5  | 6,0  | 12,0  | 55,0  | 0,045 | 3     | Weldon | □              |
| 553050Z3.0-SIRON-AW  | 02700360    | 2            | F          | 5,0  | 6,0  | 12,0  | 55,0  | 0,055 | 3     | Weldon | ■              |
| 553055Z3.0-SIRON-AW  | 02700361    | 2            | F          | 5,5  | 6,0  | 14,0  | 55,0  | 0,055 | 3     | Weldon | □              |
| 553060Z3.3-SIRON-A   | 02679367    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0  | 0,075 | 3     | Weldon | ■              |
| 553075Z3.3-SIRON-A   | 02733915    | 2            | F          | 7,5  | 8,0  | 18,0  | 60,0  | 0,1   | 3     | Weldon | ■              |
| 553080Z3.3-SIRON-A   | 02679370    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0  | 0,1   | 3     | Weldon | ■              |
| 553095Z3.3-SIRON-A   | 02733919    | 2            | F          | 9,5  | 10,0 | 22,0  | 70,0  | 0,125 | 3     | Weldon | ■              |
| 553100Z3.3-SIRON-A   | 02679373    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0  | 0,125 | 3     | Weldon | ■              |
| 553115Z3.3-SIRON-A   | 02733923    | 2            | F          | 11,5 | 12,0 | 26,0  | 80,0  | 0,15  | 3     | Weldon | ■              |
| 553120Z3.3-SIRON-A   | 02679379    | 2            | D          | 12,0 | 12,0 | 26,0  | 80,0  | 0,15  | 3     | Weldon | ■              |
| 553140Z3.3-SIRON-A   | 02733929    | 2            | D          | 14,0 | 14,0 | 30,0  | 85,0  | 0,175 | 3     | Weldon | ■              |
| 553160Z3.3-SIRON-A   | 02679383    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | 0,2   | 3     | Weldon | ■              |
| 553200Z3.3-SIRON-A   | 02679388    | 2            | D          | 20,0 | 20,0 | 42,0  | 110,0 | 0,25  | 3     | Weldon | ■              |
| 553250Z3.3-SIRON-A   | 02679392    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 0,3   | 3     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

## JS553

High performance – Universal – Square – 3 Flutes – Weldon – Chamfer



—Tolerances:

—DMM= h5

—DC= e7

—Reground possible if DC is  $\geq \varnothing 6$ 

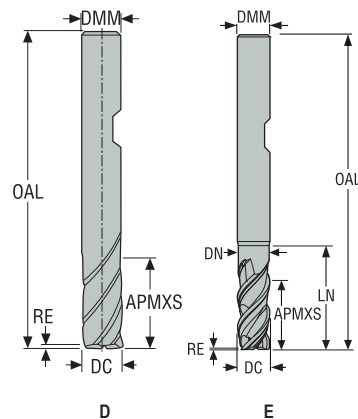

| Designation          | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank  | Stock standard |
|----------------------|-------------|--------------|------------|------|------|-------|-------|-------|-------|--------|----------------|
| 553L020Z3.0-SIRON-AW | 02734001    | 3            | F          | mm   | mm   | mm    | mm    | mm    |       |        |                |
| 553L030Z3.0-SIRON-AW | 02734006    | 3            | F          | 2,0  | 6,0  | 7,0   | 50,0  | 0,025 | 3     | Weldon | ■              |
| 553L040Z3.0-SIRON-AW | 02734007    | 3            | F          | 3,0  | 6,0  | 10,0  | 55,0  | 0,035 | 3     | Weldon | ■              |
| 553L050Z3.0-SIRON-AW | 02734008    | 3            | F          | 4,0  | 6,0  | 14,0  | 60,0  | 0,045 | 3     | Weldon | ■              |
| 553L060Z3.3-SIRON-A  | 02733980    | 3            | D          | 5,0  | 6,0  | 18,0  | 60,0  | 0,055 | 3     | Weldon | □              |
| 553L080Z3.3-SIRON-A  | 02733984    | 3            | D          | 6,0  | 6,0  | 20,0  | 65,0  | 0,075 | 3     | Weldon | ■              |
| 553L100Z3.3-SIRON-A  | 02733988    | 3            | D          | 8,0  | 8,0  | 28,0  | 70,0  | 0,1   | 3     | Weldon | ■              |
| 553L120Z3.3-SIRON-A  | 02733993    | 3            | D          | 10,0 | 10,0 | 35,0  | 85,0  | 0,125 | 3     | Weldon | ■              |
| 553L160Z3.3-SIRON-A  | 02733995    | 3            | D          | 12,0 | 12,0 | 40,0  | 95,0  | 0,15  | 3     | Weldon | ■              |
| 553L200Z3.3-SIRON-A  | 02733997    | 3            | D          | 16,0 | 16,0 | 50,0  | 110,0 | 0,2   | 3     | Weldon | ■              |
| 553L250Z3.3-SIRON-A  | 02733999    | 3            | D          | 20,0 | 20,0 | 60,0  | 125,0 | 0,25  | 3     | Weldon | ■              |
| 553L250Z3.3-SIRON-A  | 02733999    | 3            | D          | 25,0 | 25,0 | 75,0  | 150,0 | 0,3   | 3     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.



## JS553

High performance – Universal – Square – 3 Flutes – Weldon – Corner radius



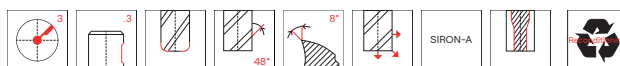
—Tolerances:

—DMM=h5

—DC=e7

—RE= ±0,02 mm

—Regrind possible

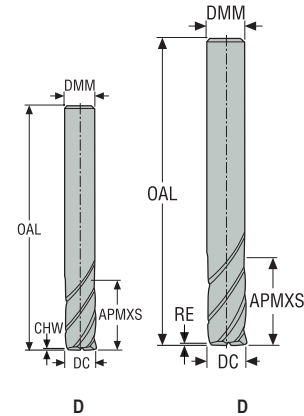


| Designation             | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank  | Stock standard                      |
|-------------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|--------|-------------------------------------|
| 553160R050Z3.0-SIRON-AW | 02700378    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 0,5 | 3     | Weldon | <input type="checkbox"/>            |
| 553160R100Z3.0-SIRON-AW | 02700381    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 1,0 | 3     | Weldon | <input type="checkbox"/>            |
| 553160R200Z3.3-SIRON-A  | 02810428    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 2,0 | 3     | Weldon | <input type="checkbox"/>            |
| 553160R250Z3.3-SIRON-A  | 02810429    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 2,5 | 3     | Weldon | <input type="checkbox"/>            |
| 553160R310Z3.3-SIRON-A  | 02810430    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 3,1 | 3     | Weldon | <input type="checkbox"/>            |
| 553160R400Z3.3-SIRON-A  | 02810431    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 4,0 | 3     | Weldon | <input type="checkbox"/>            |
| 553200R050Z3.0-SIRON-AW | 02700383    | 2            | D          | 20,0 | 20,0 | 42,0  | 110,0 | —    | —    | 0,5 | 3     | Weldon | <input checked="" type="checkbox"/> |
| 553200R100Z3.0-SIRON-AW | 02700384    | 2            | D          | 20,0 | 20,0 | 42,0  | 110,0 | —    | —    | 1,0 | 3     | Weldon | <input type="checkbox"/>            |
| JS553200E2R200.3Z3-SIRA | 02881696    | 2            | E          | 20,0 | 20,0 | 42,0  | 110,0 | 54,0 | 19,0 | 2,0 | 3     | Weldon | <input type="checkbox"/>            |
| 553250R050Z3.0-SIRON-AW | 02700386    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | —    | —    | 0,5 | 3     | Weldon | <input type="checkbox"/>            |
| 553250R100Z3.0-SIRON-AW | 02700385    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | —    | —    | 1,0 | 3     | Weldon | <input type="checkbox"/>            |

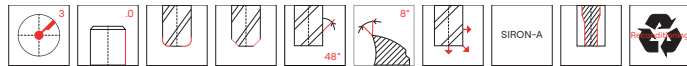
■ Stocked standard. □ Weldon available. Delivery time is 3 days.

JS553

High performance – Universal – Square – 3 Flutes – Cylindrical – Corner radius or chamfer – Inch



- Tolerances:
- DMM=h5
- DC=e7
- Regrind possible if DC is  $\geq \varnothing.375$



| Designation             | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | CHW   | RE    | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| 5530125Z3.0-SIRON-A     | 02712684    | 2            | D          | inch  | inch  | inch  | inch  | inch  | inch  | 3     | Cylindrical | ■              |
| 5530187Z3.0-SIRON-A     | 02712687    | 2            | D          | 0.125 | 0.125 | 0.250 | 2.000 | 0.001 | —     | 3     | Cylindrical | ■              |
| 5530250Z3.0-SIRON-A     | 02712688    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 0.001 | —     | 3     | Cylindrical | ■              |
| 5530250Z3.0-SIRON-A     | 02712688    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.500 | 0.003 | —     | 3     | Cylindrical | ■              |
| 5530250R015Z3.0-SIRON-A | 02712689    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.500 | —     | 0.015 | 3     | Cylindrical | ■              |
| 5530312Z3.0-SIRON-A     | 02712690    | 2            | D          | 0.313 | 0.313 | 0.625 | 2.500 | 0.004 | —     | 3     | Cylindrical | ■              |
| 5530312R015Z3.0-SIRON-A | 02712693    | 2            | D          | 0.313 | 0.313 | 0.625 | 2.500 | —     | 0.015 | 3     | Cylindrical | ■              |
| 5530375Z3.0-SIRON-A     | 02712694    | 2            | D          | 0.375 | 0.375 | 0.750 | 3.000 | 0.005 | —     | 3     | Cylindrical | ■              |
| 5530375R015Z3.0-SIRON-A | 02712695    | 2            | D          | 0.375 | 0.375 | 0.750 | 3.000 | —     | 0.015 | 3     | Cylindrical | ■              |
| 5530375R030Z3.0-SIRON-A | 02712696    | 2            | D          | 0.375 | 0.375 | 0.750 | 3.000 | —     | 0.030 | 3     | Cylindrical | ■              |
| 5530500Z3.0-SIRON-A     | 02712699    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.500 | 0.006 | —     | 3     | Cylindrical | ■              |
| 5530500R015Z3.0-SIRON-A | 02712701    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.500 | —     | 0.015 | 3     | Cylindrical | ■              |
| 5530500R030Z3.0-SIRON-A | 02712703    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.500 | —     | 0.030 | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfprp

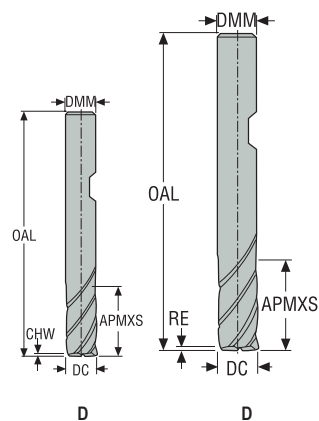
Graphite

X-Heads

Minimaster

JS553

High performance – Universal – Square – 3 Flutes – Weldon – Corner radius or chamfer – Inch



—Tolerances:  
—DMM=h5  
—DC=e7



| Designation             | Item number | Length index | Tool shape | DC            | DMM           | APMXS         | OAL           | CHW           | RE        | PCEDC | Shank  | Stock standard |
|-------------------------|-------------|--------------|------------|---------------|---------------|---------------|---------------|---------------|-----------|-------|--------|----------------|
| 5530500Z3.3-SIRON-A     | 02712697    | 2            | D          | inch<br>0.500 | inch<br>0.500 | inch<br>1.000 | inch<br>3.500 | inch<br>0.006 | inch<br>— | 3     | Weldon | ■              |
| 5530500R015Z3.3-SIRON-A | 02712700    | 2            | D          | 0.500         | 0.500         | 1.000         | 3.500         | —             | 0.015     | 3     | Weldon | ■              |
| 5530500R030Z3.3-SIRON-A | 02712702    | 2            | D          | 0.500         | 0.500         | 1.000         | 3.500         | —             | 0.030     | 3     | Weldon | ■              |

■ Stocked standard.



## Cutting data – JS553 Side milling

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$             |                  |                  |                  |                 |                 |                 |                 |                 |                 |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|------------|-------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                |            | 2                 | 3                | 4                | 5                | 6               | 8               | 10              | 12              | 14              | 16              | 20              | 25              |                                    |
| P1  | M/A/D/E                                                                           | 0.400<br>0.400 | 1.0<br>1.0 | 0.020<br>0.00080  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040  | 0.12<br>0.0048  | 0.13<br>0.0050  | 0.15<br>0.0060  | 0.17<br>0.0065  | 0.19<br>0.0075  | 225 (200 — 250)<br>740 (660 — 820) |
| P2  | M/A/D/E                                                                           | 0.400<br>0.400 | 1.0<br>1.0 | 0.020<br>0.00080  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040  | 0.12<br>0.0048  | 0.13<br>0.0050  | 0.15<br>0.0060  | 0.17<br>0.0065  | 0.19<br>0.0075  | 220 (190 — 240)<br>720 (630 — 780) |
| P3  | M/A/D/E                                                                           | 0.400<br>0.400 | 1.0<br>1.0 | 0.019<br>0.00075  | 0.028<br>0.0011  | 0.038<br>0.0015  | 0.048<br>0.0019  | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.13<br>0.0050  | 0.14<br>0.0055  | 0.16<br>0.0065  | 0.18<br>0.0070  | 190 (170 — 210)<br>620 (560 — 680) |
| P4  | M/A/D/E                                                                           | 0.400<br>0.400 | 1.0<br>1.0 | 0.019<br>0.00075  | 0.028<br>0.0011  | 0.038<br>0.0015  | 0.046<br>0.0018  | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.13<br>0.0050  | 0.14<br>0.0055  | 0.16<br>0.0065  | 0.18<br>0.0070  | 165 (150 — 190)<br>540 (500 — 620) |
| P5  | M/A/D/E                                                                           | 0.400<br>0.400 | 1.0<br>1.0 | 0.018<br>0.00070  | 0.028<br>0.0011  | 0.036<br>0.0014  | 0.046<br>0.0018  | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.11<br>0.0044  | 0.12<br>0.0048  | 0.13<br>0.0050  | 0.16<br>0.0065  | 0.18<br>0.0070  | 160 (140 — 180)<br>520 (460 — 590) |
| P6  | M/A/D/E                                                                           | 0.400<br>0.400 | 1.0<br>1.0 | 0.018<br>0.00070  | 0.028<br>0.0011  | 0.036<br>0.0014  | 0.046<br>0.0018  | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.11<br>0.0044  | 0.12<br>0.0048  | 0.13<br>0.0050  | 0.15<br>0.0060  | 0.17<br>0.0065  | 180 (160 — 200)<br>590 (530 — 650) |
| P7  | M/A/D/E                                                                           | 0.400<br>0.400 | 1.0<br>1.0 | 0.018<br>0.00070  | 0.028<br>0.0011  | 0.036<br>0.0014  | 0.046<br>0.0018  | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.11<br>0.0044  | 0.12<br>0.0048  | 0.13<br>0.0050  | 0.15<br>0.0060  | 0.17<br>0.0065  | 170 (150 — 190)<br>560 (500 — 620) |
| P8  | M/A/D/E                                                                           | 0.400<br>0.400 | 1.0<br>1.0 | 0.019<br>0.00075  | 0.028<br>0.0011  | 0.038<br>0.0015  | 0.048<br>0.0019  | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.13<br>0.0050  | 0.14<br>0.0055  | 0.16<br>0.0065  | 0.18<br>0.0070  | 160 (140 — 180)<br>520 (460 — 590) |
| P11 | M/A/D/E                                                                           | 0.400<br>0.400 | 1.0<br>1.0 | 0.018<br>0.00070  | 0.026<br>0.0010  | 0.036<br>0.0014  | 0.044<br>0.0017  | 0.055<br>0.0022 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.11<br>0.0044  | 0.12<br>0.0048  | 0.13<br>0.0050  | 0.15<br>0.0060  | 0.17<br>0.0065  | 145 (130 — 160)<br>475 (430 — 520) |
| P12 | M/A/D/E                                                                           | 0.400<br>0.400 | 1.0<br>1.0 | 0.012<br>0.00048  | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012  | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.080<br>0.0032 | 0.090<br>0.0036 | 0.10<br>0.0040  | 0.12<br>0.0048  | 95 (82 — 100)<br>310 (270 — 320)   |
| M1  | E                                                                                 | 0.400<br>0.400 | 1.0<br>1.0 | 0.013<br>0.00050  | 0.020<br>0.00080 | 0.026<br>0.0010  | 0.034<br>0.0013  | 0.040<br>0.0016 | 0.055<br>0.0022 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.090<br>0.0036 | 0.10<br>0.0040  | 0.11<br>0.0044  | 0.13<br>0.0050  | 115 (100 — 120)<br>375 (330 — 390) |
| M2  | E                                                                                 | 0.400<br>0.400 | 1.0<br>1.0 | 0.012<br>0.00048  | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012  | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.080<br>0.0032 | 0.090<br>0.0036 | 0.10<br>0.0040  | 0.12<br>0.0048  | 95 (82 — 100)<br>310 (270 — 320)   |
| M3  | E                                                                                 | 0.400<br>0.400 | 1.0<br>1.0 | 0.010<br>0.00040  | 0.015<br>0.00060 | 0.020<br>0.00080 | 0.025<br>0.0010  | 0.030<br>0.0012 | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.070<br>0.0028 | 0.075<br>0.0030 | 0.085<br>0.0034 | 0.10<br>0.0040  | 60 (47 — 69)<br>195 (160 — 220)    |
| M4  | E                                                                                 | 0.400<br>0.400 | 1.0<br>1.0 | 0.0090<br>0.00036 | 0.013<br>0.00050 | 0.018<br>0.00070 | 0.022<br>0.00085 | 0.026<br>0.0010 | 0.036<br>0.0014 | 0.044<br>0.0017 | 0.055<br>0.0022 | 0.060<br>0.0024 | 0.065<br>0.0026 | 0.075<br>0.0030 | 0.085<br>0.0034 | 45 (36 — 53)<br>150 (120 — 170)    |
| M5  | E                                                                                 | 0.400<br>0.400 | 1.0<br>1.0 | 0.0090<br>0.00036 | 0.013<br>0.00050 | 0.018<br>0.00070 | 0.022<br>0.00085 | 0.026<br>0.0010 | 0.036<br>0.0014 | 0.044<br>0.0017 | 0.055<br>0.0022 | 0.060<br>0.0024 | 0.065<br>0.0026 | 0.075<br>0.0030 | 0.085<br>0.0034 | 37 (30 — 44)<br>120 (99 — 140)     |
| K1  | E                                                                                 | 0.400<br>0.400 | 1.2<br>1.2 | 0.016<br>0.00065  | 0.024<br>0.00095 | 0.032<br>0.0013  | 0.040<br>0.0016  | 0.048<br>0.0019 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.12<br>0.0048  | 0.14<br>0.0055  | 0.16<br>0.0065  | 165 (160 — 190)<br>540 (530 — 620) |
| K2  | E                                                                                 | 0.400<br>0.400 | 1.2<br>1.2 | 0.015<br>0.00060  | 0.022<br>0.00085 | 0.030<br>0.0012  | 0.038<br>0.0015  | 0.044<br>0.0017 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.10<br>0.0040  | 0.11<br>0.0044  | 0.13<br>0.0050  | 0.14<br>0.0055  | 145 (140 — 170)<br>475 (460 — 550) |
| K3  | E                                                                                 | 0.400<br>0.400 | 1.2<br>1.2 | 0.015<br>0.00060  | 0.022<br>0.00085 | 0.030<br>0.0012  | 0.038<br>0.0015  | 0.044<br>0.0017 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.10<br>0.0040  | 0.11<br>0.0044  | 0.13<br>0.0050  | 0.14<br>0.0055  | 125 (120 — 140)<br>410 (400 — 450) |
| K4  | E                                                                                 | 0.400<br>0.400 | 1.2<br>1.2 | 0.015<br>0.00060  | 0.022<br>0.00085 | 0.030<br>0.0012  | 0.038<br>0.0015  | 0.044<br>0.0017 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.10<br>0.0040  | 0.11<br>0.0044  | 0.13<br>0.0050  | 0.14<br>0.0055  | 120 (110 — 140)<br>395 (370 — 450) |
| K5  | E                                                                                 | 0.400<br>0.400 | 1.1<br>1.1 | 0.016<br>0.00065  | 0.024<br>0.00095 | 0.032<br>0.0013  | 0.040<br>0.0016  | 0.048<br>0.0019 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.12<br>0.0048  | 0.14<br>0.0055  | 0.16<br>0.0065  | 155 (140 — 170)<br>510 (460 — 550) |
| K6  | E                                                                                 | 0.400<br>0.400 | 1.1<br>1.1 | 0.018<br>0.00070  | 0.028<br>0.0011  | 0.036<br>0.0014  | 0.046<br>0.0018  | 0.055<br>0.0022 | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.11<br>0.0044  | 0.12<br>0.0048  | 0.13<br>0.0050  | 0.15<br>0.0060  | 0.17<br>0.0065  | 220 (190 — 250)<br>720 (630 — 820) |
| K7  | E                                                                                 | 0.400<br>0.400 | 1.1<br>1.1 | 0.016<br>0.00065  | 0.024<br>0.00095 | 0.032<br>0.0013  | 0.040<br>0.0016  | 0.048<br>0.0019 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.12<br>0.0048  | 0.14<br>0.0055  | 0.16<br>0.0065  | 195 (170 — 220)<br>640 (560 — 720) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfprp

Graphite

X-Heads

Minimaster

## Cutting data – JS553 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |        |        |        |        |        |        |        |        |        | v <sub>c</sub> |               |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------------|---------------|
|     |                                                                                   |                    |                    | 2              | 3       | 4       | 5      | 6      | 8      | 10     | 12     | 14     | 16     | 20     | 25     |                |               |
| N1  | E                                                                                 | 0.500              | 1.0                | 0.016          | 0.024   | 0.032   | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.12   | 0.14   | 0.15   | 620            | (520 — 720)   |
|     |                                                                                   | 0.500              | 1.0                | 0.00065        | 0.00095 | 0.0013  | 0.0016 | 0.0019 | 0.0026 | 0.0032 | 0.0038 | 0.0044 | 0.0048 | 0.0055 | 0.0060 | 2025           | (1800 — 2300) |
|     | E                                                                                 | 0.500              | 1.0                | 0.016          | 0.024   | 0.032   | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.12   | 0.14   | 0.15   | 400            | (340 — 460)   |
|     |                                                                                   | 0.500              | 1.0                | 0.00065        | 0.00095 | 0.0013  | 0.0016 | 0.0019 | 0.0026 | 0.0032 | 0.0038 | 0.0044 | 0.0048 | 0.0055 | 0.0060 | 1300           | (1200 — 1500) |
| N2  | E                                                                                 | 0.500              | 1.0                | 0.016          | 0.024   | 0.032   | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.12   | 0.14   | 0.15   | 265            | (230 — 300)   |
|     |                                                                                   | 0.500              | 1.0                | 0.00065        | 0.00095 | 0.0013  | 0.0016 | 0.0019 | 0.0026 | 0.0032 | 0.0038 | 0.0044 | 0.0048 | 0.0055 | 0.0060 | 870            | (760 — 980)   |
|     | E                                                                                 | 0.500              | 1.1                | 0.016          | 0.024   | 0.032   | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.12   | 0.13   | 0.15   | 310            | (260 — 350)   |
|     |                                                                                   | 0.500              | 1.1                | 0.00065        | 0.00095 | 0.0013  | 0.0016 | 0.0019 | 0.0026 | 0.0032 | 0.0038 | 0.0044 | 0.0048 | 0.0050 | 0.0060 | 1025           | (860 — 1100)  |
| N3  | E                                                                                 | 0.150              | 0.50               | 0.017          | 0.026   | 0.034   | 0.044  | 0.050  | 0.070  | 0.085  | 0.10   | 0.12   | 0.13   | 0.15   | 0.17   | 43             | (26 — 60)     |
|     |                                                                                   | 0.150              | 0.50               | 0.00065        | 0.0010  | 0.0013  | 0.0017 | 0.0020 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0050 | 0.0060 | 0.0065 | 140            | (86 — 190)    |
|     | E                                                                                 | 0.150              | 0.50               | 0.017          | 0.026   | 0.034   | 0.044  | 0.050  | 0.070  | 0.085  | 0.10   | 0.12   | 0.13   | 0.15   | 0.17   | 35             | (21 — 48)     |
|     |                                                                                   | 0.150              | 0.50               | 0.00065        | 0.0010  | 0.0013  | 0.0017 | 0.0020 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0050 | 0.0060 | 0.0065 | 115            | (69 — 150)    |
| S1  | E                                                                                 | 0.150              | 0.50               | 0.016          | 0.024   | 0.032   | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.12   | 0.14   | 0.15   | 30             | (19 — 42)     |
|     |                                                                                   | 0.150              | 0.50               | 0.00065        | 0.00095 | 0.0013  | 0.0016 | 0.0019 | 0.0026 | 0.0032 | 0.0038 | 0.0044 | 0.0048 | 0.0055 | 0.0060 | 100            | (63 — 130)    |
|     | E                                                                                 | 0.400              | 1.0                | 0.012          | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.060  | 0.070  | 0.080  | 0.090  | 0.10   | 0.12   | 110            | (78 — 130)    |
|     |                                                                                   | 0.400              | 1.0                | 0.00048        | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0024 | 0.0028 | 0.0032 | 0.0036 | 0.0040 | 0.0048 | 360            | (260 — 420)   |
| S2  | E                                                                                 | 0.400              | 1.0                | 0.012          | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.060  | 0.070  | 0.080  | 0.090  | 0.10   | 0.12   | 85             | (60 — 100)    |
|     |                                                                                   | 0.400              | 1.0                | 0.00048        | 0.00070 | 0.00095 | 0.0012 | 0.0014 | 0.0019 | 0.0024 | 0.0028 | 0.0032 | 0.0036 | 0.0040 | 0.0048 | 280            | (200 — 320)   |
|     | E                                                                                 | 0.400              | 1.0                | 0.011          | 0.016   | 0.022   | 0.026  | 0.032  | 0.042  | 0.055  | 0.065  | 0.070  | 0.080  | 0.090  | 0.10   | 65             | (48 — 84)     |
|     |                                                                                   | 0.400              | 1.0                | 0.00044        | 0.00065 | 0.00085 | 0.0010 | 0.0013 | 0.0017 | 0.0022 | 0.0026 | 0.0028 | 0.0032 | 0.0036 | 0.0040 | 215            | (160 — 270)   |
| S3  | E                                                                                 | 0.200              | 0.90               | 0.013          | 0.020   | 0.026   | 0.032  | 0.040  | 0.050  | 0.065  | 0.075  | 0.085  | 0.095  | 0.11   | 0.12   | 75             | (62 — 91)     |
|     |                                                                                   | 0.200              | 0.90               | 0.00050        | 0.00080 | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0030 | 0.0034 | 0.0038 | 0.0044 | 0.0048 | 245            | (210 — 290)   |
|     | E                                                                                 | 0.200              | 0.90               | 0.010          | 0.015   | 0.020   | 0.025  | 0.030  | 0.040  | 0.050  | 0.060  | 0.065  | 0.075  | 0.085  | 0.095  | 80             | (65 — 96)     |
|     |                                                                                   | 0.200              | 0.90               | 0.00040        | 0.00060 | 0.00080 | 0.0010 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0026 | 0.0030 | 0.0034 | 0.0038 | 260            | (220 — 310)   |
| S11 | E                                                                                 | 0.200              | 0.90               | 0.010          | 0.015   | 0.020   | 0.025  | 0.030  | 0.040  | 0.050  | 0.060  | 0.065  | 0.075  | 0.085  | 0.095  | 80             | (65 — 96)     |
|     |                                                                                   | 0.200              | 0.90               | 0.00040        | 0.00060 | 0.00080 | 0.0010 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0026 | 0.0030 | 0.0034 | 0.0038 | 260            | (220 — 310)   |
|     | E                                                                                 | 0.200              | 0.90               | 0.010          | 0.015   | 0.020   | 0.025  | 0.030  | 0.040  | 0.050  | 0.060  | 0.065  | 0.075  | 0.085  | 0.095  | 60             | (49 — 72)     |
|     |                                                                                   | 0.200              | 0.90               | 0.00040        | 0.00060 | 0.00080 | 0.0010 | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0026 | 0.0030 | 0.0034 | 0.0038 | 195            | (170 — 230)   |
| S12 | E                                                                                 | 0.500              | 1.2                | 0.020          | 0.030   | 0.040   | 0.050  | 0.060  | 0.080  | 0.10   | 0.12   | 0.13   | 0.15   | 0.17   | 0.19   | 290            | (180 — 400)   |
|     |                                                                                   | 0.500              | 1.2                | 0.00080        | 0.0012  | 0.0016  | 0.0020 | 0.0024 | 0.0032 | 0.0040 | 0.0048 | 0.0050 | 0.0060 | 0.0065 | 0.0075 | 950            | (600 — 1300)  |
|     | E                                                                                 | 0.500              | 1.2                | 0.020          | 0.030   | 0.040   | 0.050  | 0.060  | 0.080  | 0.10   | 0.12   | 0.13   | 0.15   | 0.17   | 0.19   | 300            | (180 — 410)   |
|     |                                                                                   | 0.500              | 1.2                | 0.00080        | 0.0012  | 0.0016  | 0.0020 | 0.0024 | 0.0032 | 0.0040 | 0.0048 | 0.0050 | 0.0060 | 0.0065 | 0.0075 | 980            | (600 — 1300)  |
| S13 | E                                                                                 | 0.500              | 1.2                | 0.020          | 0.030   | 0.040   | 0.050  | 0.060  | 0.080  | 0.10   | 0.12   | 0.13   | 0.15   | 0.17   | 0.19   | 580            | (470 — 690)   |
|     |                                                                                   | 0.500              | 1.2                | 0.00080        | 0.0012  | 0.0016  | 0.0020 | 0.0024 | 0.0032 | 0.0040 | 0.0048 | 0.0050 | 0.0060 | 0.0065 | 0.0075 | 1900           | (1600 — 2200) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – JS553 Slot milling

| SMG |  | $a_p$ /DC    | $f_z$             |                  |                  |                  |                 |                 |                 |                 |                 |                 |                 |                 | $v_c$                              |                     |
|-----|-----------------------------------------------------------------------------------|--------------|-------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|---------------------|
|     |                                                                                   |              | 2                 | 3                | 4                | 5                | 6               | 8               | 10              | 12              | 14              | 16              | 20              | 25              |                                    |                     |
| P1  | M/A/D/E                                                                           | 1.0<br>1,0   | 0.014<br>0,00055  | 0.020<br>0,00080 | 0.028<br>0,0011  | 0.034<br>0,0013  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.17<br>0,0065  | 195 (170 — 220)<br>640 (560 — 720) | Steel and cast iron |
| P2  | M/A/D/E                                                                           | 1.0<br>1,0   | 0.014<br>0,00055  | 0.020<br>0,00080 | 0.028<br>0,0011  | 0.034<br>0,0013  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.17<br>0,0065  | 190 (170 — 210)<br>620 (560 — 680) |                     |
| P3  | M/A/D/E                                                                           | 1.0<br>1,0   | 0.014<br>0,00055  | 0.020<br>0,00080 | 0.028<br>0,0011  | 0.034<br>0,0013  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.17<br>0,0065  | 165 (140 — 180)<br>540 (460 — 590) |                     |
| P4  | M/A/D/E                                                                           | 1.0<br>1,0   | 0.014<br>0,00055  | 0.020<br>0,00080 | 0.028<br>0,0011  | 0.034<br>0,0013  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.17<br>0,0065  | 145 (130 — 160)<br>475 (430 — 520) |                     |
| P5  | M/A/D/E                                                                           | 1.0<br>1,0   | 0.014<br>0,00055  | 0.020<br>0,00080 | 0.028<br>0,0011  | 0.034<br>0,0013  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.17<br>0,0065  | 135 (120 — 150)<br>445 (400 — 490) |                     |
| P6  | M/A/D/E                                                                           | 1.0<br>1,0   | 0.014<br>0,00055  | 0.020<br>0,00080 | 0.028<br>0,0011  | 0.034<br>0,0013  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.17<br>0,0065  | 155 (140 — 170)<br>510 (460 — 550) |                     |
| P7  | M/A/D/E                                                                           | 1.0<br>1,0   | 0.014<br>0,00055  | 0.020<br>0,00080 | 0.028<br>0,0011  | 0.034<br>0,0013  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.17<br>0,0065  | 145 (130 — 160)<br>475 (430 — 520) |                     |
| P8  | M/A/D/E                                                                           | 1.0<br>1,0   | 0.014<br>0,00055  | 0.020<br>0,00080 | 0.028<br>0,0011  | 0.034<br>0,0013  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.17<br>0,0065  | 135 (120 — 150)<br>445 (400 — 490) |                     |
| P11 | M/A/D/E                                                                           | 0.80<br>0,80 | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 130 (120 — 140)<br>425 (400 — 450) | Non ferrous         |
| P12 | M/A/D/E                                                                           | 0.80<br>0,80 | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.11<br>0,0044  | 80 (69 — 87)<br>260 (230 — 280)    |                     |
| M1  | E                                                                                 | 0.80<br>0,80 | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 95 (85 — 100)<br>310 (280 — 320)   |                     |
| M2  | E                                                                                 | 0.80<br>0,80 | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.11<br>0,0044  | 80 (69 — 87)<br>260 (230 — 280)    |                     |
| M3  | E                                                                                 | 0.70<br>0,70 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 48 (39 — 58)<br>155 (130 — 190)    |                     |
| M4  | E                                                                                 | 0.70<br>0,70 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 36 (30 — 43)<br>120 (99 — 140)     |                     |
| M5  | E                                                                                 | 0.70<br>0,70 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 30 (25 — 36)<br>100 (83 — 110)     |                     |
| K1  | E                                                                                 | 1.0<br>1,0   | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 145 (140 — 170)<br>475 (460 — 550) | Hard                |
| K2  | E                                                                                 | 1.0<br>1,0   | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 125 (120 — 150)<br>410 (400 — 490) |                     |
| K3  | E                                                                                 | 1.0<br>1,0   | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 110 (110 — 120)<br>360 (370 — 390) |                     |
| K4  | E                                                                                 | 1.0<br>1,0   | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 105 (96 — 120)<br>345 (320 — 390)  |                     |
| K5  | E                                                                                 | 0.80<br>0,80 | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 135 (120 — 150)<br>445 (400 — 490) |                     |
| K6  | E                                                                                 | 0.80<br>0,80 | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 200 (180 — 230)<br>660 (600 — 750) |                     |
| K7  | E                                                                                 | 0.80<br>0,80 | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 175 (150 — 190)<br>570 (500 — 620) |                     |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm/tooth (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_g$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cf/p

Graphite

X-Heads

Minimaster

## Cutting data – JS553 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |         |         |        |        |        |        |        | v <sub>c</sub>     |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|--------------------|
|     |                                                                                   |                    | 2              | 3       | 4       | 5       | 6       | 8       | 10      | 12     | 14     | 16     | 20     | 25     |                    |
| N1  | E                                                                                 | 0.70               | 0.010          | 0.015   | 0.020   | 0.025   | 0.030   | 0.040   | 0.050   | 0.060  | 0.070  | 0.080  | 0.10   | 0.13   | 580 (490 — 670)    |
|     |                                                                                   | 0.70               | 0,00040        | 0,00060 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0020  | 0,0024 | 0,0028 | 0,0032 | 0,0040 | 0,0050 | 1900 (1700 — 2100) |
| N2  | E                                                                                 | 0.70               | 0.010          | 0.015   | 0.020   | 0.025   | 0.030   | 0.040   | 0.050   | 0.060  | 0.070  | 0.080  | 0.10   | 0.13   | 375 (320 — 430)    |
|     |                                                                                   | 0.70               | 0,00040        | 0,00060 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0020  | 0,0024 | 0,0028 | 0,0032 | 0,0040 | 0,0050 | 1225 (1100 — 1400) |
| N3  | E                                                                                 | 0.70               | 0.010          | 0.015   | 0.020   | 0.025   | 0.030   | 0.040   | 0.050   | 0.060  | 0.070  | 0.080  | 0.10   | 0.13   | 250 (210 — 290)    |
|     |                                                                                   | 0.70               | 0,00040        | 0,00060 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0020  | 0,0024 | 0,0028 | 0,0032 | 0,0040 | 0,0050 | 820 (690 — 950)    |
| N11 | E                                                                                 | 0.60               | 0.010          | 0.015   | 0.020   | 0.025   | 0.030   | 0.040   | 0.050   | 0.060  | 0.070  | 0.080  | 0.10   | 0.13   | 290 (250 — 330)    |
|     |                                                                                   | 0.60               | 0,00040        | 0,00060 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0020  | 0,0024 | 0,0028 | 0,0032 | 0,0040 | 0,0050 | 950 (830 — 1000)   |
| S1  | E                                                                                 | 0.30               | 0.0065         | 0.0095  | 0.013   | 0.016   | 0.019   | 0.025   | 0.032   | 0.038  | 0.044  | 0.050  | 0.065  | 0.080  | 34 (21 — 47)       |
|     |                                                                                   | 0.30               | 0,00026        | 0,00038 | 0,00050 | 0,00065 | 0,00075 | 0,0010  | 0,0013  | 0,0015 | 0,0017 | 0,0020 | 0,0026 | 0,0032 | 110 (69 — 150)     |
| S2  | E                                                                                 | 0.30               | 0.0065         | 0.0095  | 0.013   | 0.016   | 0.019   | 0.025   | 0.032   | 0.038  | 0.044  | 0.050  | 0.065  | 0.080  | 27 (17 — 38)       |
|     |                                                                                   | 0.30               | 0,00026        | 0,00038 | 0,00050 | 0,00065 | 0,00075 | 0,0010  | 0,0013  | 0,0015 | 0,0017 | 0,0020 | 0,0026 | 0,0032 | 90 (56 — 120)      |
| S3  | E                                                                                 | 0.30               | 0.0065         | 0.0095  | 0.013   | 0.016   | 0.019   | 0.025   | 0.032   | 0.038  | 0.044  | 0.050  | 0.065  | 0.080  | 23 (15 — 32)       |
|     |                                                                                   | 0.30               | 0,00026        | 0,00038 | 0,00050 | 0,00065 | 0,00075 | 0,0010  | 0,0013  | 0,0015 | 0,0017 | 0,0020 | 0,0026 | 0,0032 | 75 (50 — 100)      |
| S11 | E                                                                                 | 0.50               | 0.012          | 0.018   | 0.024   | 0.030   | 0.036   | 0.048   | 0.060   | 0.070  | 0.080  | 0.090  | 0.10   | 0.11   | 85 (63 — 110)      |
|     |                                                                                   | 0.50               | 0,00048        | 0,00070 | 0,00095 | 0,0012  | 0,0014  | 0,0019  | 0,0024  | 0,0028 | 0,0032 | 0,0036 | 0,0040 | 0,0044 | 280 (210 — 360)    |
| S12 | E                                                                                 | 0.50               | 0.012          | 0.018   | 0.024   | 0.030   | 0.036   | 0.048   | 0.060   | 0.070  | 0.080  | 0.090  | 0.10   | 0.11   | 65 (48 — 86)       |
|     |                                                                                   | 0.50               | 0,00048        | 0,00070 | 0,00095 | 0,0012  | 0,0014  | 0,0019  | 0,0024  | 0,0028 | 0,0032 | 0,0036 | 0,0040 | 0,0044 | 215 (160 — 280)    |
| S13 | E                                                                                 | 0.50               | 0.010          | 0.016   | 0.020   | 0.026   | 0.032   | 0.042   | 0.050   | 0.060  | 0.070  | 0.075  | 0.090  | 0.10   | 55 (39 — 69)       |
|     |                                                                                   | 0.50               | 0,00040        | 0,00065 | 0,00080 | 0,0010  | 0,0013  | 0,0017  | 0,0020  | 0,0024 | 0,0028 | 0,0030 | 0,0036 | 0,0040 | 180 (130 — 220)    |
| H5  | M/A/D                                                                             | 0.50               | 0.0040         | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 0.028  | 0.032  | 0.040  | 0.050  | 65 (52 — 77)       |
|     |                                                                                   | 0.50               | 0,00016        | 0,00024 | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 0,0011 | 0,0013 | 0,0016 | 0,0020 | 215 (180 — 250)    |
| H8  | M/A/D                                                                             | 0.50               | 0.0040         | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 0.028  | 0.032  | 0.040  | 0.050  | 65 (52 — 77)       |
|     |                                                                                   | 0.50               | 0,00016        | 0,00024 | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 0,0011 | 0,0013 | 0,0016 | 0,0020 | 215 (180 — 250)    |
| H11 | M/A/D                                                                             | 0.50               | 0.0040         | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 0.028  | 0.032  | 0.040  | 0.050  | 80 (66 — 98)       |
|     |                                                                                   | 0.50               | 0,00016        | 0,00024 | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 0,0011 | 0,0013 | 0,0016 | 0,0020 | 260 (220 — 320)    |
| H12 | M/A/D                                                                             | 1.0                | 0.0095         | 0.014   | 0.019   | 0.024   | 0.028   | 0.038   | 0.046   | 0.055  | 0.060  | 0.070  | 0.080  | 0.090  | 65 (52 — 77)       |
|     |                                                                                   | 1,0                | 0,00038        | 0,00055 | 0,00075 | 0,00095 | 0,0011  | 0,0015  | 0,0018  | 0,0022 | 0,0024 | 0,0028 | 0,0032 | 0,0036 | 215 (180 — 250)    |
| H21 | M/A/D                                                                             | 0.50               | 0.0040         | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 0.028  | 0.032  | 0.040  | 0.050  | 65 (52 — 77)       |
|     |                                                                                   | 0.50               | 0,00016        | 0,00024 | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 0,0011 | 0,0013 | 0,0016 | 0,0020 | 215 (180 — 250)    |
| TS1 | A                                                                                 | 1.0                | 0.020          | 0.030   | 0.040   | 0.050   | 0.060   | 0.080   | 0.10    | 0.12   | 0.13   | 0.15   | 0.17   | 0.19   | 245 (150 — 340)    |
|     |                                                                                   | 1,0                | 0,00080        | 0,0012  | 0,0016  | 0,0020  | 0,0024  | 0,0032  | 0,0040  | 0,0048 | 0,0050 | 0,0060 | 0,0065 | 0,0075 | 800 (500 — 1100)   |
| TP1 | A                                                                                 | 1.0                | 0.020          | 0.030   | 0.040   | 0.050   | 0.060   | 0.080   | 0.10    | 0.12   | 0.13   | 0.15   | 0.17   | 0.19   | 250 (160 — 350)    |
|     |                                                                                   | 1,0                | 0,00080        | 0,0012  | 0,0016  | 0,0020  | 0,0024  | 0,0032  | 0,0040  | 0,0048 | 0,0050 | 0,0060 | 0,0065 | 0,0075 | 820 (530 — 1100)   |
| GR1 | A                                                                                 | 1.0                | 0.020          | 0.030   | 0.040   | 0.050   | 0.060   | 0.080   | 0.10    | 0.12   | 0.13   | 0.15   | 0.17   | 0.19   | 490 (400 — 580)    |
|     |                                                                                   | 1,0                | 0,00080        | 0,0012  | 0,0016  | 0,0020  | 0,0024  | 0,0032  | 0,0040  | 0,0048 | 0,0050 | 0,0060 | 0,0065 | 0,0075 | 1600 (1400 — 1900) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm/tooth (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – JS553 Side milling – Inch

| SMG |  | $a_e$ /DC      | $a_p$ /DC  | $f_z$            |                  |                 |                 |                 |                 | $v_c$                              |                                 |
|-----|-----------------------------------------------------------------------------------|----------------|------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|---------------------------------|
|     |                                                                                   |                |            | 1/8              | 3/16             | 1/4             | 5/16            | 3/8             | 1/2             |                                    |                                 |
| P1  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0 | 0.032<br>0,0013  | 0.048<br>0,0019  | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 225 (200 — 250)<br>740 (660 — 820) | Universal                       |
| P2  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0 | 0.032<br>0,0013  | 0.048<br>0,0019  | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.13<br>0,0050  | 220 (190 — 240)<br>720 (630 — 780) |                                 |
| P3  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0 | 0.030<br>0,0012  | 0.046<br>0,0018  | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.12<br>0,0048  | 190 (170 — 210)<br>620 (560 — 680) | Steel and cast iron             |
| P4  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0 | 0.030<br>0,0012  | 0.044<br>0,0017  | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.12<br>0,0048  | 165 (150 — 190)<br>540 (500 — 620) |                                 |
| P5  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0 | 0.030<br>0,0012  | 0.044<br>0,0017  | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.11<br>0,0044  | 160 (140 — 180)<br>520 (460 — 590) | Stainless steel and S-materials |
| P6  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0 | 0.028<br>0,0011  | 0.044<br>0,0017  | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.11<br>0,0044  | 180 (160 — 200)<br>590 (530 — 650) |                                 |
| P7  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0 | 0.028<br>0,0011  | 0.044<br>0,0017  | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.11<br>0,0044  | 170 (150 — 190)<br>560 (500 — 620) | Non ferrous                     |
| P8  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0 | 0.030<br>0,0012  | 0.046<br>0,0018  | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.12<br>0,0048  | 160 (140 — 180)<br>520 (460 — 590) |                                 |
| P11 | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0 | 0.028<br>0,0011  | 0.042<br>0,0017  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.11<br>0,0044  | 145 (130 — 160)<br>475 (430 — 520) | Hard                            |
| P12 | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0 | 0.019<br>0,00075 | 0.030<br>0,0012  | 0.038<br>0,0015 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 95 (82 — 100)<br>310 (270 — 320)   |                                 |
| M1  | E                                                                                 | 0.400<br>0,400 | 1.0<br>1,0 | 0.022<br>0,00085 | 0.032<br>0,0013  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.085<br>0,0034 | 115 (100 — 120)<br>375 (330 — 390) | Plastic and cf/p                |
| M2  | E                                                                                 | 0.400<br>0,400 | 1.0<br>1,0 | 0.019<br>0,00075 | 0.030<br>0,0012  | 0.038<br>0,0015 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 95 (82 — 100)<br>310 (270 — 320)   |                                 |
| M3  | E                                                                                 | 0.400<br>0,400 | 1.0<br>1,0 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 60 (47 — 69)<br>195 (160 — 220)    | Graphite                        |
| M4  | E                                                                                 | 0.400<br>0,400 | 1.0<br>1,0 | 0.014<br>0,00055 | 0.022<br>0,00085 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.042<br>0,0017 | 0.055<br>0,0022 | 45 (36 — 53)<br>150 (120 — 170)    |                                 |
| M5  | E                                                                                 | 0.400<br>0,400 | 1.0<br>1,0 | 0.014<br>0,00055 | 0.022<br>0,00085 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.042<br>0,0017 | 0.055<br>0,0022 | 37 (30 — 44)<br>120 (99 — 140)     | X-Heads                         |
| K1  | E                                                                                 | 0.400<br>0,400 | 1.2<br>1,2 | 0.026<br>0,0010  | 0.038<br>0,0015  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 165 (160 — 190)<br>540 (530 — 620) |                                 |
| K2  | E                                                                                 | 0.400<br>0,400 | 1.2<br>1,2 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 145 (140 — 170)<br>475 (460 — 550) | Minimaster                      |
| K3  | E                                                                                 | 0.400<br>0,400 | 1.2<br>1,2 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 125 (120 — 140)<br>410 (400 — 450) |                                 |
| K4  | E                                                                                 | 0.400<br>0,400 | 1.2<br>1,2 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 120 (110 — 140)<br>395 (370 — 450) |                                 |
| K5  | E                                                                                 | 0.400<br>0,400 | 1.1<br>1,1 | 0.026<br>0,0010  | 0.038<br>0,0015  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 155 (140 — 170)<br>510 (460 — 550) |                                 |
| K6  | E                                                                                 | 0.400<br>0,400 | 1.1<br>1,1 | 0.028<br>0,0011  | 0.044<br>0,0017  | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.11<br>0,0044  | 220 (190 — 250)<br>720 (630 — 820) |                                 |
| K7  | E                                                                                 | 0.400<br>0,400 | 1.1<br>1,1 | 0.026<br>0,0010  | 0.038<br>0,0015  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 195 (170 — 220)<br>640 (560 — 720) |                                 |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm/tooth (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – JS553 Side milling – Inch

| SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$            |                  |                 |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|----------------|--------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                |              | 1/8              | 3/16             | 1/4             | 5/16            | 3/8             | 1/2             |                                       |
| N1  | E                                                                                 | 0.500<br>0,500 | 1.0<br>1,0   | 0.025<br>0,0010  | 0.038<br>0,0015  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.10<br>0,0040  | 620 (520 — 720)<br>2025 (1800 — 2300) |
| N2  | E                                                                                 | 0.500<br>0,500 | 1.0<br>1,0   | 0.025<br>0,0010  | 0.038<br>0,0015  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.10<br>0,0040  | 400 (340 — 460)<br>1300 (1200 — 1500) |
| N3  | E                                                                                 | 0.500<br>0,500 | 1.0<br>1,0   | 0.025<br>0,0010  | 0.038<br>0,0015  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.10<br>0,0040  | 265 (230 — 300)<br>870 (760 — 980)    |
| N11 | E                                                                                 | 0.500<br>0,500 | 1.1<br>1,1   | 0.025<br>0,0010  | 0.038<br>0,0015  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.10<br>0,0040  | 310 (260 — 350)<br>1025 (860 — 1100)  |
| S1  | E                                                                                 | 0.150<br>0,150 | 0.50<br>0,50 | 0.028<br>0,0011  | 0.042<br>0,0017  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.11<br>0,0044  | 43 (26 — 60)<br>140 (86 — 190)        |
| S2  | E                                                                                 | 0.150<br>0,150 | 0.50<br>0,50 | 0.028<br>0,0011  | 0.042<br>0,0017  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.11<br>0,0044  | 35 (21 — 48)<br>115 (69 — 150)        |
| S3  | E                                                                                 | 0.150<br>0,150 | 0.50<br>0,50 | 0.026<br>0,0010  | 0.038<br>0,0015  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.10<br>0,0040  | 30 (19 — 42)<br>100 (63 — 130)        |
| S11 | E                                                                                 | 0.400<br>0,400 | 1.0<br>1,0   | 0.019<br>0,00075 | 0.030<br>0,0012  | 0.038<br>0,0015 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 110 (78 — 130)<br>360 (260 — 420)     |
| S12 | E                                                                                 | 0.400<br>0,400 | 1.0<br>1,0   | 0.019<br>0,00075 | 0.030<br>0,0012  | 0.038<br>0,0015 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 85 (60 — 100)<br>280 (200 — 320)      |
| S13 | E                                                                                 | 0.400<br>0,400 | 1.0<br>1,0   | 0.017<br>0,00065 | 0.025<br>0,0010  | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 65 (48 — 84)<br>215 (160 — 270)       |
| H5  | M/A/D                                                                             | 0.200<br>0,200 | 0.90<br>0,90 | 0.020<br>0,00080 | 0.032<br>0,0013  | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 75 (62 — 91)<br>245 (210 — 290)       |
| H8  | M/A/D                                                                             | 0.200<br>0,200 | 0.90<br>0,90 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 80 (65 — 96)<br>260 (220 — 310)       |
| H21 | M/A/D                                                                             | 0.200<br>0,200 | 0.90<br>0,90 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 80 (65 — 96)<br>260 (220 — 310)       |
| H31 | M/A/D                                                                             | 0.200<br>0,200 | 0.90<br>0,90 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 60 (49 — 72)<br>195 (170 — 230)       |
| TS1 | A                                                                                 | 0.500<br>0,500 | 1.2<br>1,2   | 0.032<br>0,0013  | 0.048<br>0,0019  | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 290 (180 — 400)<br>950 (600 — 1300)   |
| TP1 | A                                                                                 | 0.500<br>0,500 | 1.2<br>1,2   | 0.032<br>0,0013  | 0.048<br>0,0019  | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 300 (180 — 410)<br>980 (600 — 1300)   |
| GR1 | A                                                                                 | 0.500<br>0,500 | 1.2<br>1,2   | 0.032<br>0,0013  | 0.048<br>0,0019  | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 580 (470 — 690)<br>1900 (1600 — 2200) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm/tooth (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

## Cutting data – JS553 Slot milling – Inch

| SMG |         | $a_p/DC$     | $f_z$            |                  |                 |                 |                 |                 | $v_c$                              |
|-----|---------|--------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |         |              | 1/8              | 3/16             | 1/4             | 5/16            | 3/8             | 1/2             |                                    |
| P1  | M/A/D/E | 1.0<br>1.0   | 0.022<br>0,00085 | 0.034<br>0,0013  | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.090<br>0,0036 | 195 (170 — 220)<br>640 (560 — 720) |
| P2  | M/A/D/E | 1.0<br>1.0   | 0.022<br>0,00085 | 0.034<br>0,0013  | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.090<br>0,0036 | 190 (170 — 210)<br>620 (560 — 680) |
| P3  | M/A/D/E | 1.0<br>1.0   | 0.022<br>0,00085 | 0.034<br>0,0013  | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.090<br>0,0036 | 165 (140 — 180)<br>540 (460 — 590) |
| P4  | M/A/D/E | 1.0<br>1.0   | 0.022<br>0,00085 | 0.034<br>0,0013  | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.090<br>0,0036 | 145 (130 — 160)<br>475 (430 — 520) |
| P5  | M/A/D/E | 1.0<br>1.0   | 0.022<br>0,00085 | 0.034<br>0,0013  | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.090<br>0,0036 | 135 (120 — 150)<br>445 (400 — 490) |
| P6  | M/A/D/E | 1.0<br>1.0   | 0.022<br>0,00085 | 0.034<br>0,0013  | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.090<br>0,0036 | 155 (140 — 170)<br>510 (460 — 550) |
| P7  | M/A/D/E | 1.0<br>1.0   | 0.022<br>0,00085 | 0.034<br>0,0013  | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.090<br>0,0036 | 145 (130 — 160)<br>475 (430 — 520) |
| P8  | M/A/D/E | 1.0<br>1.0   | 0.022<br>0,00085 | 0.034<br>0,0013  | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.090<br>0,0036 | 135 (120 — 150)<br>445 (400 — 490) |
| P11 | M/A/D/E | 0.80<br>0.80 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 130 (120 — 140)<br>425 (400 — 450) |
| P12 | M/A/D/E | 0.80<br>0.80 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 80 (69 — 87)<br>260 (230 — 280)    |
| M1  | E       | 0.80<br>0.80 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 95 (85 — 100)<br>310 (280 — 320)   |
| M2  | E       | 0.80<br>0.80 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 80 (69 — 87)<br>260 (230 — 280)    |
| M3  | E       | 0.70<br>0.70 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.038<br>0,0015 | 0.050<br>0,0020 | 48 (39 — 58)<br>155 (130 — 190)    |
| M4  | E       | 0.70<br>0.70 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.038<br>0,0015 | 0.050<br>0,0020 | 36 (30 — 43)<br>120 (99 — 140)     |
| M5  | E       | 0.70<br>0.70 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.038<br>0,0015 | 0.050<br>0,0020 | 30 (25 — 36)<br>100 (83 — 110)     |
| K1  | E       | 1.0<br>1.0   | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 145 (140 — 170)<br>475 (460 — 550) |
| K2  | E       | 1.0<br>1.0   | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 125 (120 — 150)<br>410 (400 — 490) |
| K3  | E       | 1.0<br>1.0   | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 110 (110 — 120)<br>360 (370 — 390) |
| K4  | E       | 1.0<br>1.0   | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 105 (96 — 120)<br>345 (320 — 390)  |
| K5  | E       | 0.80<br>0.80 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 135 (120 — 150)<br>445 (400 — 490) |
| K6  | E       | 0.80<br>0.80 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 200 (180 — 230)<br>660 (600 — 750) |
| K7  | E       | 0.80<br>0.80 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 175 (150 — 190)<br>570 (500 — 620) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm/tooth (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_g$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cf/p

Graphite

X-Heads

Minimaster

## Cutting data – JS553 Slot milling – Inch

| SMG |  | $a_p$ /DC    | $f_z$             |                   |                  |                  |                  |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|--------------|-------------------|-------------------|------------------|------------------|------------------|-----------------|---------------------------------------|
|     |                                                                                   |              | 1/8               | 3/16              | 1/4              | 5/16             | 3/8              | 1/2             |                                       |
| N1  | E                                                                                 | 0.70<br>0.70 | 0.016<br>0.00065  | 0.024<br>0.00095  | 0.032<br>0.0013  | 0.040<br>0.0016  | 0.048<br>0.0019  | 0.065<br>0.0026 | 580 (490 — 670)<br>1900 (1700 — 2100) |
| N2  | E                                                                                 | 0.70<br>0.70 | 0.016<br>0.00065  | 0.024<br>0.00095  | 0.032<br>0.0013  | 0.040<br>0.0016  | 0.048<br>0.0019  | 0.065<br>0.0026 | 375 (320 — 430)<br>1225 (1100 — 1400) |
| N3  | E                                                                                 | 0.70<br>0.70 | 0.016<br>0.00065  | 0.024<br>0.00095  | 0.032<br>0.0013  | 0.040<br>0.0016  | 0.048<br>0.0019  | 0.065<br>0.0026 | 250 (210 — 290)<br>820 (690 — 950)    |
| N11 | E                                                                                 | 0.60<br>0.60 | 0.016<br>0.00065  | 0.024<br>0.00095  | 0.032<br>0.0013  | 0.040<br>0.0016  | 0.048<br>0.0019  | 0.065<br>0.0026 | 290 (250 — 330)<br>950 (830 — 1000)   |
| S1  | E                                                                                 | 0.30<br>0.30 | 0.010<br>0.00040  | 0.015<br>0.00060  | 0.020<br>0.00080 | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016 | 34 (21 — 47)<br>110 (69 — 150)        |
| S2  | E                                                                                 | 0.30<br>0.30 | 0.010<br>0.00040  | 0.015<br>0.00060  | 0.020<br>0.00080 | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016 | 27 (17 — 38)<br>90 (56 — 120)         |
| S3  | E                                                                                 | 0.30<br>0.30 | 0.010<br>0.00040  | 0.015<br>0.00060  | 0.020<br>0.00080 | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016 | 23 (15 — 32)<br>75 (50 — 100)         |
| S11 | E                                                                                 | 0.50<br>0.50 | 0.019<br>0.00075  | 0.028<br>0.0011   | 0.038<br>0.0015  | 0.048<br>0.0019  | 0.055<br>0.0022  | 0.075<br>0.0030 | 85 (63 — 110)<br>280 (210 — 360)      |
| S12 | E                                                                                 | 0.50<br>0.50 | 0.019<br>0.00075  | 0.028<br>0.0011   | 0.038<br>0.0015  | 0.048<br>0.0019  | 0.055<br>0.0022  | 0.075<br>0.0030 | 65 (48 — 86)<br>215 (160 — 280)       |
| S13 | E                                                                                 | 0.50<br>0.50 | 0.017<br>0.00065  | 0.025<br>0.0010   | 0.034<br>0.0013  | 0.042<br>0.0017  | 0.050<br>0.0020  | 0.065<br>0.0026 | 55 (39 — 69)<br>180 (130 — 220)       |
| H5  | M/A/D                                                                             | 0.50<br>0.50 | 0.0065<br>0.00026 | 0.0095<br>0.00038 | 0.013<br>0.00050 | 0.016<br>0.00065 | 0.019<br>0.00075 | 0.026<br>0.0010 | 65 (52 — 77)<br>215 (180 — 250)       |
| H8  | M/A/D                                                                             | 0.50<br>0.50 | 0.0065<br>0.00026 | 0.0095<br>0.00038 | 0.013<br>0.00050 | 0.016<br>0.00065 | 0.019<br>0.00075 | 0.026<br>0.0010 | 65 (52 — 77)<br>215 (180 — 250)       |
| H21 | M/A/D                                                                             | 0.50<br>0.50 | 0.0065<br>0.00026 | 0.0095<br>0.00038 | 0.013<br>0.00050 | 0.016<br>0.00065 | 0.019<br>0.00075 | 0.026<br>0.0010 | 65 (52 — 77)<br>215 (180 — 250)       |
| H31 | M/A/D                                                                             | 0.50<br>0.50 | 0.0065<br>0.00026 | 0.0095<br>0.00038 | 0.013<br>0.00050 | 0.016<br>0.00065 | 0.019<br>0.00075 | 0.026<br>0.0010 | 49 (39 — 58)<br>160 (130 — 190)       |
| TS1 | A                                                                                 | 1.0<br>1.0   | 0.032<br>0.0013   | 0.048<br>0.0019   | 0.065<br>0.0026  | 0.080<br>0.0032  | 0.095<br>0.0038  | 0.12<br>0.0048  | 245 (150 — 340)<br>800 (500 — 1100)   |
| TP1 | A                                                                                 | 1.0<br>1.0   | 0.032<br>0.0013   | 0.048<br>0.0019   | 0.065<br>0.0026  | 0.080<br>0.0032  | 0.095<br>0.0038  | 0.12<br>0.0048  | 250 (160 — 350)<br>820 (530 — 1100)   |
| GR1 | A                                                                                 | 1.0<br>1.0   | 0.032<br>0.0013   | 0.048<br>0.0019   | 0.065<br>0.0026  | 0.080<br>0.0032  | 0.095<br>0.0038  | 0.12<br>0.0048  | 490 (400 — 580)<br>1600 (1400 — 1900) |

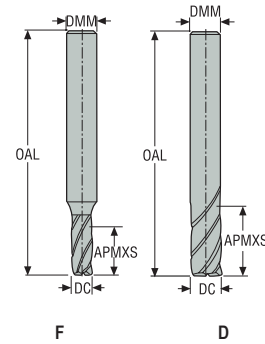
For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
 Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm/tooth (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
 All cutting data are target values

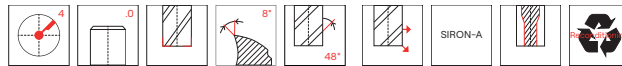


JS554

High performance – Universal – Square – 4 Flutes – Cylindrical – Sharp



- Tolerances:
- DMM=h5
- DC=h10
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|------|-------|-------------|----------------|
| 554030SZ4.0-SIRON-A | 02733453    | 2            | F          | mm   | mm   | mm    | mm   |       |             |                |
| 554040SZ4.0-SIRON-A | 02733458    | 2            | F          | 3,0  | 6,0  | 7,0   | 50,0 | 4     | Cylindrical | ■              |
| 554050SZ4.0-SIRON-A | 02733812    | 2            | F          | 4,0  | 6,0  | 10,0  | 55,0 | 4     | Cylindrical | ■              |
| 554060SZ4.0-SIRON-A | 02733814    | 2            | F          | 5,0  | 6,0  | 12,0  | 55,0 | 4     | Cylindrical | ■              |
| 554080SZ4.0-SIRON-A | 02733815    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0 | 4     | Cylindrical | ■              |
| 554100SZ4.0-SIRON-A | 02733816    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0 | 4     | Cylindrical | ■              |
| 554100SZ4.0-SIRON-A | 02733816    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

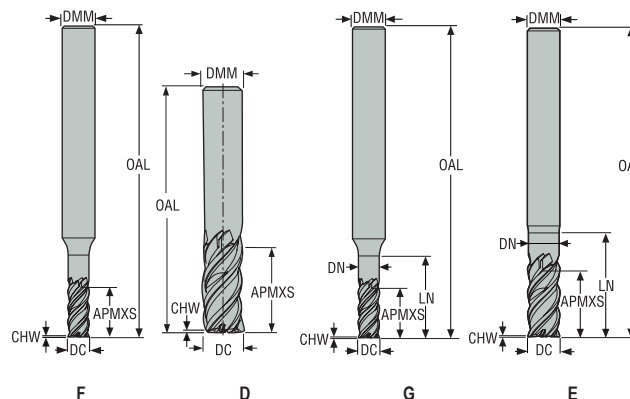
Graphite

X-Heads

Minimaster

## JS554

High performance – Universal – Square – 4 Flutes – Cylindrical – Chamfer



—Tolerances:  
—DMM=h5  
—DC=e7  
—Reground possible if DC is  $\geq \varnothing 6$

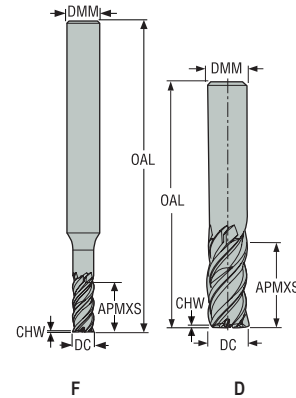


| Designation          | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-------|-------|-------------|----------------|
| JS554030F1C.0Z4-SIRA | 10194615    | 1            | F          | mm   | mm   | mm    | mm    | mm   | mm   | mm    | mm    | Cylindrical | ■              |
| JS554040F1C.0Z4-SIRA | 10041454    | 1            | F          | 3,0  | 6,0  | 4,0   | 40,0  | —    | —    | 0,035 | 4     | Cylindrical | ■              |
| JS554050F1C.0Z4-SIRA | 10194616    | 1            | F          | 4,0  | 6,0  | 6,0   | 40,0  | —    | —    | 0,045 | 4     | Cylindrical | ■              |
| JS554060D1C.0Z4-SIRA | 10194616    | 1            | F          | 5,0  | 6,0  | 7,0   | 40,0  | —    | —    | 0,055 | 4     | Cylindrical | ■              |
| JS554060D1C.0Z4-SIRA | 10041455    | 1            | D          | 6,0  | 6,0  | 8,0   | 40,0  | —    | —    | 0,075 | 4     | Cylindrical | ■              |
| JS554080D1C.0Z4-SIRA | 10041456    | 1            | D          | 8,0  | 8,0  | 11,0  | 50,0  | —    | —    | 0,1   | 4     | Cylindrical | ■              |
| JS554100D1C.0Z4-SIRA | 10041457    | 1            | D          | 10,0 | 10,0 | 13,0  | 57,0  | —    | —    | 0,125 | 4     | Cylindrical | ■              |
| JS554120D1C.0Z4-SIRA | 10041458    | 1            | D          | 12,0 | 12,0 | 15,0  | 65,0  | —    | —    | 0,15  | 4     | Cylindrical | ■              |
| JS554160D1C.0Z4-SIRA | 10041459    | 1            | D          | 16,0 | 16,0 | 19,0  | 75,0  | —    | —    | 0,2   | 4     | Cylindrical | ■              |
| 554030Z4.0-SIRON-A   | 02733455    | 2            | F          | 3,0  | 6,0  | 7,0   | 50,0  | —    | —    | 0,035 | 4     | Cylindrical | ■              |
| JS554030G2C.0Z4-SIRA | 03029956    | 2            | G          | 3,0  | 6,0  | 8,0   | 57,0  | 10,0 | 2,85 | 0,035 | 4     | Cylindrical | ■              |
| 554040Z4.0-SIRON-A   | 02733459    | 2            | F          | 4,0  | 6,0  | 10,0  | 55,0  | —    | —    | 0,045 | 4     | Cylindrical | ■              |
| JS554040G2C.0Z4-SIRA | 03029957    | 2            | G          | 4,0  | 6,0  | 10,0  | 57,0  | 13,0 | 3,8  | 0,045 | 4     | Cylindrical | ■              |
| 554050Z4.0-SIRON-A   | 02733813    | 2            | F          | 5,0  | 6,0  | 12,0  | 55,0  | —    | —    | 0,055 | 4     | Cylindrical | ■              |
| JS554050G2C.0Z4-SIRA | 03029958    | 2            | G          | 5,0  | 6,0  | 12,0  | 57,0  | 16,0 | 4,75 | 0,055 | 4     | Cylindrical | ■              |
| 554060Z4.0-SIRON-A   | 02679503    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0  | —    | —    | 0,075 | 4     | Cylindrical | ■              |
| JS554060E2C.0Z4-SIRA | 03029959    | 2            | E          | 6,0  | 6,0  | 14,0  | 57,0  | 18,0 | 5,7  | 0,075 | 4     | Cylindrical | ■              |
| 554080Z4.0-SIRON-A   | 02679512    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0  | —    | —    | 0,1   | 4     | Cylindrical | ■              |
| JS554080E2C.0Z4-SIRA | 03029961    | 2            | E          | 8,0  | 8,0  | 18,0  | 63,0  | 25,0 | 7,6  | 0,1   | 4     | Cylindrical | ■              |
| 554100Z4.0-SIRON-A   | 02679537    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0  | —    | —    | 0,125 | 4     | Cylindrical | ■              |
| JS554100E2C.0Z4-SIRA | 03029963    | 2            | E          | 10,0 | 10,0 | 22,0  | 72,0  | 29,0 | 9,5  | 0,125 | 4     | Cylindrical | ■              |
| 554120Z4.0-SIRON-A   | 02679548    | 2            | D          | 12,0 | 12,0 | 26,0  | 80,0  | —    | —    | 0,15  | 4     | Cylindrical | ■              |
| JS554120E2C.0Z4-SIRA | 03029966    | 2            | E          | 12,0 | 12,0 | 26,0  | 83,0  | 35,0 | 11,4 | 0,15  | 4     | Cylindrical | ■              |
| 554160Z4.0-SIRON-A   | 02679560    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 0,2   | 4     | Cylindrical | ■              |
| JS554160E2C.0Z4-SIRA | 03029970    | 2            | E          | 16,0 | 16,0 | 34,0  | 92,0  | 42,0 | 15,2 | 0,2   | 4     | Cylindrical | ■              |
| 554200Z4.0-SIRON-A   | 02679566    | 2            | D          | 20,0 | 20,0 | 42,0  | 100,0 | —    | —    | 0,25  | 4     | Cylindrical | ■              |
| JS554200E2C.0Z4-SIRA | 03029972    | 2            | E          | 20,0 | 20,0 | 42,0  | 109,0 | 54,0 | 19,0 | 0,25  | 4     | Cylindrical | ■              |
| 554250Z4.0-SIRON-A   | 02679573    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | —    | —    | 0,3   | 4     | Cylindrical | ■              |

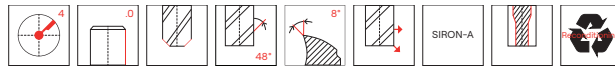
■ Stocked standard.

JS554

High performance – Universal – Square – 4 Flutes – Cylindrical – Chamfer



- Tolerances:
- DMM=h5
- DC=e7
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|-------|-------|-------------|----------------|
| 554L030Z4.0-SIRON-A | 02733818    | 3            | F          | mm   | mm   | mm    | mm    | mm    |       |             |                |
| 554L040Z4.0-SIRON-A | 02733823    | 3            | F          | 3,0  | 6,0  | 12,0  | 55,0  | 0,035 | 4     | Cylindrical | ■              |
| 554L050Z4.0-SIRON-A | 02733825    | 3            | F          | 4,0  | 6,0  | 16,0  | 60,0  | 0,045 | 4     | Cylindrical | ■              |
| 554L060Z4.0-SIRON-A | 02733828    | 3            | F          | 5,0  | 6,0  | 20,0  | 65,0  | 0,055 | 4     | Cylindrical | ■              |
| 554L080Z4.0-SIRON-A | 02733830    | 3            | D          | 6,0  | 6,0  | 23,0  | 65,0  | 0,075 | 4     | Cylindrical | ■              |
| 554L100Z4.0-SIRON-A | 02733832    | 3            | D          | 8,0  | 8,0  | 32,0  | 75,0  | 0,1   | 4     | Cylindrical | ■              |
| 554L120Z4.0-SIRON-A | 02733834    | 3            | D          | 10,0 | 10,0 | 40,0  | 85,0  | 0,125 | 4     | Cylindrical | ■              |
| 554L160Z4.0-SIRON-A | 02733836    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 0,15  | 4     | Cylindrical | ■              |
| 554L200Z4.0-SIRON-A | 02733838    | 3            | D          | 16,0 | 16,0 | 55,0  | 115,0 | 0,2   | 4     | Cylindrical | ■              |
| 554L250Z4.0-SIRON-A | 02733841    | 3            | D          | 20,0 | 20,0 | 65,0  | 125,0 | 0,25  | 4     | Cylindrical | ■              |
| 554L250Z4.0-SIRON-A | 02733841    | 3            | D          | 25,0 | 25,0 | 85,0  | 150,0 | 0,3   | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

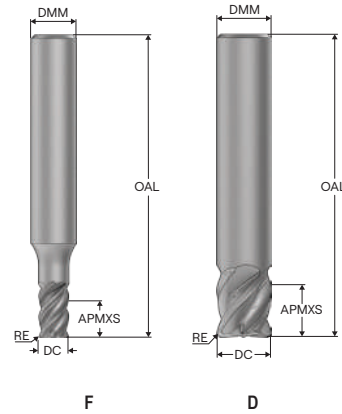
Graphite

X-Heads

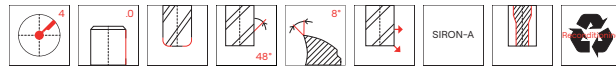
Minimaster

## JS554

High performance – Universal – Square – 4 Flutes – Cylindrical – Corner radius



—Tolerances:  
—DMM= h5  
—DC= e7  
—RE= ±0,02 mm  
—Regrind possible if DC is ≥Ø6

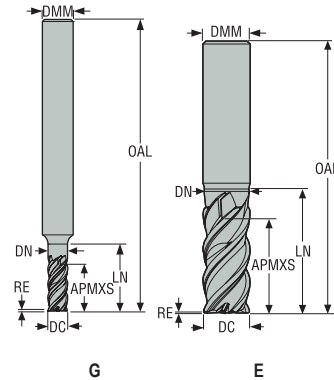


| Designation             | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-------------|----------------|
| JS554030F1R020.0Z4-SIRA | 10194617    | 1            | F          | 3,0  | 6,0  | 4,0   | 40,0  | 0,2 | 4     | Cylindrical | ■              |
| JS554040F1R020.0Z4-SIRA | 10194618    | 1            | F          | 4,0  | 6,0  | 6,0   | 40,0  | 0,2 | 4     | Cylindrical | ■              |
| JS554050F1R020.0Z4-SIRA | 10194619    | 1            | F          | 5,0  | 6,0  | 7,0   | 40,0  | 0,2 | 4     | Cylindrical | ■              |
| JS554060D1R020.0Z4-SIRA | 10194620    | 1            | D          | 6,0  | 6,0  | 8,0   | 40,0  | 0,2 | 4     | Cylindrical | ■              |
| JS554060D1R050.0Z4-SIRA | 10194621    | 1            | D          | 6,0  | 6,0  | 8,0   | 40,0  | 0,5 | 4     | Cylindrical | ■              |
| JS554080D1R050.0Z4-SIRA | 10194622    | 1            | D          | 8,0  | 8,0  | 11,0  | 50,0  | 0,5 | 4     | Cylindrical | ■              |
| JS554100D1R050.0Z4-SIRA | 10194623    | 1            | D          | 10,0 | 10,0 | 13,0  | 57,0  | 0,5 | 4     | Cylindrical | ■              |
| JS554100D1R100.0Z4-SIRA | 10194624    | 1            | D          | 10,0 | 10,0 | 13,0  | 57,0  | 1,0 | 4     | Cylindrical | ■              |
| JS554120D1R050.0Z4-SIRA | 10194625    | 1            | D          | 12,0 | 12,0 | 15,0  | 65,0  | 0,5 | 4     | Cylindrical | ■              |
| JS554120D1R100.0Z4-SIRA | 10194626    | 1            | D          | 12,0 | 12,0 | 15,0  | 65,0  | 1,0 | 4     | Cylindrical | ■              |
| JS554160D1R050.0Z4-SIRA | 10194627    | 1            | D          | 16,0 | 16,0 | 19,0  | 75,0  | 0,5 | 4     | Cylindrical | ■              |
| JS554160D1R100.0Z4-SIRA | 10194628    | 1            | D          | 16,0 | 16,0 | 19,0  | 75,0  | 1,0 | 4     | Cylindrical | ■              |
| 554060R020Z4.0-SIRON-A  | 02679507    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0  | 0,2 | 4     | Cylindrical | ■              |
| 554080R050Z4.0-SIRON-A  | 02679514    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0  | 0,5 | 4     | Cylindrical | ■              |
| 554100R050Z4.0-SIRON-A  | 02679540    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0  | 0,5 | 4     | Cylindrical | ■              |
| 554100R100Z4.0-SIRON-A  | 02679544    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0  | 1,0 | 4     | Cylindrical | ■              |
| 554120R050Z4.0-SIRON-A  | 02679552    | 2            | D          | 12,0 | 12,0 | 26,0  | 80,0  | 0,5 | 4     | Cylindrical | ■              |
| 554120R100Z4.0-SIRON-A  | 02679557    | 2            | D          | 12,0 | 12,0 | 26,0  | 80,0  | 1,0 | 4     | Cylindrical | ■              |
| 554160R050Z4.0-SIRON-A  | 02679562    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | 0,5 | 4     | Cylindrical | ■              |
| 554160R100Z4.0-SIRON-A  | 02679564    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | 1,0 | 4     | Cylindrical | ■              |
| 554160R200Z4.0-SIRON-A  | 02810437    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | 2,0 | 4     | Cylindrical | ■              |
| 554160R310Z4.0-SIRON-A  | 02810439    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | 3,1 | 4     | Cylindrical | ■              |
| 554160R400Z4.0-SIRON-A  | 02810441    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | 4,0 | 4     | Cylindrical | ■              |
| 554200R050Z4.0-SIRON-A  | 02679568    | 2            | D          | 20,0 | 20,0 | 42,0  | 100,0 | 0,5 | 4     | Cylindrical | ■              |
| 554200R100Z4.0-SIRON-A  | 02679571    | 2            | D          | 20,0 | 20,0 | 42,0  | 100,0 | 1,0 | 4     | Cylindrical | ■              |
| 554200R250Z4.0-SIRON-A  | 02810443    | 2            | D          | 20,0 | 20,0 | 42,0  | 100,0 | 2,5 | 4     | Cylindrical | ■              |
| 554200R310Z4.0-SIRON-A  | 02810445    | 2            | D          | 20,0 | 20,0 | 42,0  | 100,0 | 3,1 | 4     | Cylindrical | ■              |
| 554200R400Z4.0-SIRON-A  | 02810447    | 2            | D          | 20,0 | 20,0 | 42,0  | 100,0 | 4,0 | 4     | Cylindrical | ■              |
| 554250R050Z4.0-SIRON-A  | 02679575    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 0,5 | 4     | Cylindrical | ■              |
| 554250R100Z4.0-SIRON-A  | 02679577    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 1,0 | 4     | Cylindrical | ■              |
| 554250R310Z4.0-SIRON-A  | 02810449    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 3,1 | 4     | Cylindrical | ■              |
| 554250R400Z4.0-SIRON-A  | 02810452    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 4,0 | 4     | Cylindrical | ■              |

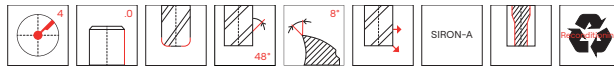
■ Stocked standard.

## JS554

High performance- Universal – Square – 4 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM= h5
- DC= e7
- RE=  $\pm 0,02$  mm
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation             | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE   | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|------|------|-------|-------|------|------|------|-------|-------------|----------------|
|                         |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm   |       |             |                |
| JS554030G2R015.0Z4-SIRA | 02881697    | 2            | G          | 3,0  | 6,0  | 7,0   | 57,0  | 10,0 | 2,85 | 0,15 | 4     | Cylindrical | ■              |
| JS554040G2R020.0Z4-SIRA | 02881698    | 2            | G          | 4,0  | 6,0  | 10,0  | 57,0  | 13,0 | 3,8  | 0,2  | 4     | Cylindrical | ■              |
| JS554050G2R020.0Z4-SIRA | 02881699    | 2            | G          | 5,0  | 6,0  | 12,0  | 57,0  | 16,0 | 4,75 | 0,2  | 4     | Cylindrical | ■              |
| JS554060E2R020.0Z4-SIRA | 03029960    | 2            | E          | 6,0  | 6,0  | 14,0  | 57,0  | 18,0 | 5,7  | 0,2  | 4     | Cylindrical | ■              |
| JS554060E2R050.0Z4-SIRA | 02881700    | 2            | E          | 6,0  | 6,0  | 14,0  | 57,0  | 18,0 | 5,7  | 0,5  | 4     | Cylindrical | ■              |
| JS554060E2R100.0Z4-SIRA | 03029948    | 2            | E          | 6,0  | 6,0  | 14,0  | 57,0  | 18,0 | 5,7  | 1,0  | 4     | Cylindrical | ■              |
| JS554080E2R050.0Z4-SIRA | 03029962    | 2            | E          | 8,0  | 8,0  | 18,0  | 63,0  | 25,0 | 7,6  | 0,5  | 4     | Cylindrical | ■              |
| JS554080E2R100.0Z4-SIRA | 02881701    | 2            | E          | 8,0  | 8,0  | 18,0  | 63,0  | 25,0 | 7,6  | 1,0  | 4     | Cylindrical | ■              |
| JS554100E2R050.0Z4-SIRA | 03029964    | 2            | E          | 10,0 | 10,0 | 22,0  | 72,0  | 29,0 | 9,5  | 0,5  | 4     | Cylindrical | ■              |
| JS554100E2R100.0Z4-SIRA | 03029965    | 2            | E          | 10,0 | 10,0 | 22,0  | 72,0  | 29,0 | 9,5  | 1,0  | 4     | Cylindrical | ■              |
| JS554100E2R200.0Z4-SIRA | 02881702    | 2            | E          | 10,0 | 10,0 | 22,0  | 72,0  | 29,0 | 9,5  | 2,0  | 4     | Cylindrical | ■              |
| JS554100E2R250.0Z4-SIRA | 03029949    | 2            | E          | 10,0 | 10,0 | 22,0  | 72,0  | 29,0 | 9,5  | 2,5  | 4     | Cylindrical | ■              |
| JS554120E2R050.0Z4-SIRA | 03029968    | 2            | E          | 12,0 | 12,0 | 26,0  | 83,0  | 35,0 | 11,4 | 0,5  | 4     | Cylindrical | ■              |
| JS554120E2R100.0Z4-SIRA | 03029969    | 2            | E          | 12,0 | 12,0 | 26,0  | 83,0  | 35,0 | 11,4 | 1,0  | 4     | Cylindrical | ■              |
| JS554120E2R200.0Z4-SIRA | 02881703    | 2            | E          | 12,0 | 12,0 | 26,0  | 83,0  | 35,0 | 11,4 | 2,0  | 4     | Cylindrical | ■              |
| JS554120E2R250.0Z4-SIRA | 02881704    | 2            | E          | 12,0 | 12,0 | 26,0  | 83,0  | 35,0 | 11,4 | 2,5  | 4     | Cylindrical | ■              |
| JS554120E2R300.0Z4-SIRA | 03029950    | 2            | E          | 12,0 | 12,0 | 26,0  | 83,0  | 35,0 | 11,4 | 3,0  | 4     | Cylindrical | ■              |
| JS554160E2R050.0Z4-SIRA | 03029971    | 2            | E          | 16,0 | 16,0 | 34,0  | 92,0  | 42,0 | 15,2 | 0,5  | 4     | Cylindrical | ■              |
| JS554160E2R600.0Z4-SIRA | 03093685    | 2            | E          | 16,0 | 16,0 | 34,0  | 92,0  | 42,0 | 15,2 | 6,0  | 4     | Cylindrical | ■              |
| JS554200E2R200.0Z4-SIRA | 02881705    | 2            | E          | 20,0 | 20,0 | 42,0  | 110,0 | 54,0 | 19,0 | 2,0  | 4     | Cylindrical | ■              |
| JS554200E2R600.0Z4-SIRA | 03029951    | 2            | E          | 20,0 | 20,0 | 42,0  | 109,0 | 54,0 | 19,0 | 6,0  | 4     | Cylindrical | ■              |
| JS554250E2R600.0Z4-SIRA | 03093686    | 2            | E          | 25,0 | 25,0 | 52,0  | 125,0 | 65,0 | 23,8 | 6,0  | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

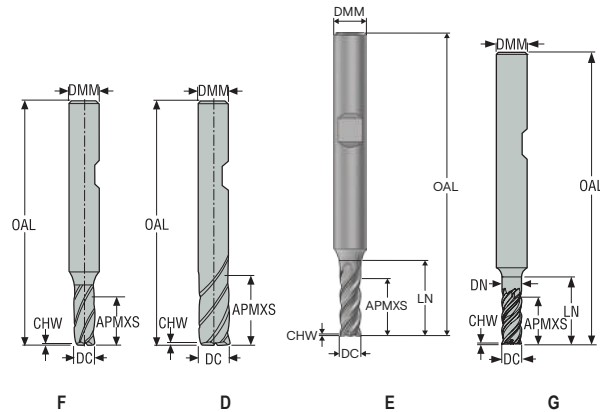
X-Heads

Minimaster

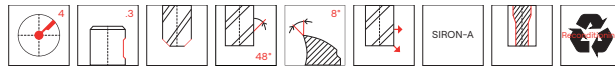


## JS554

High performance – Universal – Square – 4 Flutes – Weldon – Chamfer



- Tolerances:
- DMM=h5
- DC=e7
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation          | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | PCEDC | Shank  | Stock standard |
|----------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-------|-------|--------|----------------|
|                      |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm    |       |        |                |
| JS554040F1C.3Z4-SIRA | 10041460    | 1            | F          | 4,0  | 6,0  | 6,0   | 40,0  | —    | —    | 0,045 | 4     | Weldon | ■              |
| JS554060D1C.3Z4-SIRA | 10041461    | 1            | D          | 6,0  | 6,0  | 8,0   | 40,0  | —    | —    | 0,075 | 4     | Weldon | ■              |
| JS554080D1C.3Z4-SIRA | 10041462    | 1            | D          | 8,0  | 8,0  | 11,0  | 50,0  | —    | —    | 0,1   | 4     | Weldon | □              |
| JS554100D1C.3Z4-SIRA | 10041463    | 1            | D          | 10,0 | 10,0 | 13,0  | 57,0  | —    | —    | 0,125 | 4     | Weldon | □              |
| JS554120D1C.3Z4-SIRA | 10041464    | 1            | D          | 12,0 | 12,0 | 15,0  | 65,0  | —    | —    | 0,15  | 4     | Weldon | □              |
| JS554160D1C.3Z4-SIRA | 10041465    | 1            | D          | 16,0 | 16,0 | 19,0  | 75,0  | —    | —    | 0,2   | 4     | Weldon | □              |
| 554030Z4.3-SIRON-A   | 02733450    | 2            | F          | 3,0  | 6,0  | 7,0   | 50,0  | —    | —    | 0,035 | 4     | Weldon | ■              |
| JS554030G2C.3Z4-SIRA | 03029973    | 2            | G          | 3,0  | 6,0  | 8,0   | 57,0  | 10,0 | 2,85 | 0,035 | 4     | Weldon | □              |
| 554040Z4.3-SIRON-A   | 02733456    | 2            | F          | 4,0  | 6,0  | 10,0  | 55,0  | —    | —    | 0,045 | 4     | Weldon | ■              |
| JS554040G2C.3Z4-SIRA | 03029974    | 2            | G          | 4,0  | 6,0  | 10,0  | 57,0  | 13,0 | 3,8  | 0,045 | 4     | Weldon | ■              |
| 554050Z4.3-SIRON-A   | 02733461    | 2            | F          | 5,0  | 6,0  | 12,0  | 55,0  | —    | —    | 0,055 | 4     | Weldon | ■              |
| JS554050G2C.3Z4-SIRA | 03029975    | 2            | G          | 5,0  | 6,0  | 12,0  | 57,0  | 16,0 | 4,75 | 0,055 | 4     | Weldon | □              |
| 554060Z4.3-SIRON-A   | 02679502    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0  | —    | —    | 0,075 | 4     | Weldon | ■              |
| JS554060E2C.3Z4-SIRA | 03029976    | 2            | E          | 6,0  | 6,0  | 14,0  | 57,0  | 18,0 | 5,7  | 0,075 | 4     | Weldon | ■              |
| 554080Z4.3-SIRON-A   | 02679511    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0  | —    | —    | 0,1   | 4     | Weldon | ■              |
| JS554080E2C.3Z4-SIRA | 03029978    | 2            | E          | 8,0  | 8,0  | 18,0  | 63,0  | 25,0 | 7,6  | 0,1   | 4     | Weldon | ■              |
| JS554100E2C.3Z4-SIRA | 03029980    | 2            | E          | 10,0 | 10,0 | 22,0  | 72,0  | 29,0 | 9,5  | 0,125 | 4     | Weldon | ■              |
| 554100Z4.3-SIRON-A   | 02679535    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0  | —    | —    | 0,125 | 4     | Weldon | ■              |
| JS554120E2C.3Z4-SIRA | 03029983    | 2            | E          | 12,0 | 12,0 | 26,0  | 83,0  | 35,0 | 11,4 | 0,15  | 4     | Weldon | ■              |
| 554120Z4.3-SIRON-A   | 02679547    | 2            | D          | 12,0 | 12,0 | 26,0  | 80,0  | —    | —    | 0,15  | 4     | Weldon | ■              |
| JS554160E2C.3Z4-SIRA | 03029986    | 2            | E          | 16,0 | 16,0 | 34,0  | 92,0  | 42,0 | 15,2 | 0,2   | 4     | Weldon | ■              |
| 554160Z4.3-SIRON-A   | 02679559    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 0,2   | 4     | Weldon | ■              |
| JS554200E2C.3Z4-SIRA | 03029988    | 2            | E          | 20,0 | 20,0 | 42,0  | 109,0 | 54,0 | 19,0 | 0,25  | 4     | Weldon | ■              |
| 554200Z4.3-SIRON-A   | 02679565    | 2            | D          | 20,0 | 20,0 | 42,0  | 100,0 | —    | —    | 0,25  | 4     | Weldon | ■              |
| 554250Z4.3-SIRON-A   | 02679572    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | —    | —    | 0,3   | 4     | Weldon | ■              |
| 554L030Z4.3-SIRON-A  | 02733817    | 3            | F          | 3,0  | 6,0  | 12,0  | 55,0  | —    | —    | 0,035 | 4     | Weldon | ■              |
| 554L040Z4.3-SIRON-A  | 02733820    | 3            | F          | 4,0  | 6,0  | 16,0  | 60,0  | —    | —    | 0,045 | 4     | Weldon | ■              |
| 554L050Z4.3-SIRON-A  | 02733824    | 3            | F          | 5,0  | 6,0  | 20,0  | 65,0  | —    | —    | 0,055 | 4     | Weldon | ■              |
| 554L060Z4.3-SIRON-A  | 02733827    | 3            | D          | 6,0  | 6,0  | 23,0  | 65,0  | —    | —    | 0,075 | 4     | Weldon | ■              |
| 554L080Z4.3-SIRON-A  | 02733829    | 3            | D          | 8,0  | 8,0  | 32,0  | 75,0  | —    | —    | 0,1   | 4     | Weldon | ■              |
| 554L100Z4.3-SIRON-A  | 02733831    | 3            | D          | 10,0 | 10,0 | 40,0  | 85,0  | —    | —    | 0,125 | 4     | Weldon | ■              |
| 554L120Z4.3-SIRON-A  | 02733833    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | —    | —    | 0,15  | 4     | Weldon | ■              |
| 554L160Z4.3-SIRON-A  | 02733835    | 3            | D          | 16,0 | 16,0 | 55,0  | 115,0 | —    | —    | 0,2   | 4     | Weldon | ■              |
| 554L200Z4.3-SIRON-A  | 02733837    | 3            | D          | 20,0 | 20,0 | 65,0  | 125,0 | —    | —    | 0,25  | 4     | Weldon | ■              |
| 554L250Z4.3-SIRON-A  | 02733839    | 3            | D          | 25,0 | 25,0 | 85,0  | 150,0 | —    | —    | 0,3   | 4     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

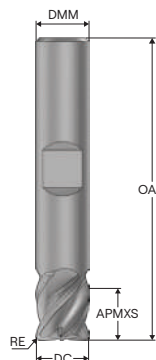
Graphite

X-Heads

Minimaster

## JS554

High performance – Universal – Square – 4 Flutes – Weldon – Corner radius



D

—Tolerances:

—DMM= h5

—DC= e7

—RE= ±0,02 mm

—Regrind possible



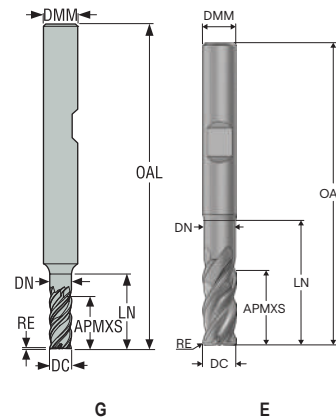
| Designation             | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank  | Stock standard |
|-------------------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|--------|----------------|
| JS554080D1R050.3Z4-SIRA | 10194629    | 1            | D          | 8,0  | 8,0  | 11,0  | 50,0  | 0,5 | 4     | Weldon | □              |
| JS554100D1R050.3Z4-SIRA | 10194630    | 1            | D          | 10,0 | 10,0 | 13,0  | 57,0  | 0,5 | 4     | Weldon | □              |
| JS554100D1R100.3Z4-SIRA | 10194631    | 1            | D          | 10,0 | 10,0 | 13,0  | 57,0  | 1,0 | 4     | Weldon | □              |
| JS554120D1R050.3Z4-SIRA | 10194632    | 1            | D          | 12,0 | 12,0 | 15,0  | 65,0  | 0,5 | 4     | Weldon | □              |
| JS554120D1R100.3Z4-SIRA | 10194633    | 1            | D          | 12,0 | 12,0 | 15,0  | 65,0  | 1,0 | 4     | Weldon | □              |
| JS554160D1R050.3Z4-SIRA | 10194634    | 1            | D          | 16,0 | 16,0 | 19,0  | 75,0  | 0,5 | 4     | Weldon | □              |
| JS554160D1R100.3Z4-SIRA | 10194635    | 1            | D          | 16,0 | 16,0 | 19,0  | 75,0  | 1,0 | 4     | Weldon | □              |
| 554060R020Z4.3-SIRON-A  | 02679506    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0  | 0,2 | 4     | Weldon | ■              |
| 554080R050Z4.3-SIRON-A  | 02679513    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0  | 0,5 | 4     | Weldon | ■              |
| 554100R050Z4.3-SIRON-A  | 02679539    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0  | 0,5 | 4     | Weldon | ■              |
| 554100R100Z4.3-SIRON-A  | 02679542    | 2            | D          | 10,0 | 10,0 | 22,0  | 70,0  | 1,0 | 4     | Weldon | ■              |
| 554120R050Z4.3-SIRON-A  | 02679549    | 2            | D          | 12,0 | 12,0 | 26,0  | 80,0  | 0,5 | 4     | Weldon | ■              |
| 554120R100Z4.3-SIRON-A  | 02679554    | 2            | D          | 12,0 | 12,0 | 26,0  | 80,0  | 1,0 | 4     | Weldon | ■              |
| 554160R050Z4.3-SIRON-A  | 02679561    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | 0,5 | 4     | Weldon | ■              |
| 554160R100Z4.3-SIRON-A  | 02679563    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | 1,0 | 4     | Weldon | ■              |
| 554160R200Z4.3-SIRON-A  | 02810436    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | 2,0 | 4     | Weldon | ■              |
| 554160R310Z4.3-SIRON-A  | 02810438    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | 3,1 | 4     | Weldon | ■              |
| 554160R400Z4.3-SIRON-A  | 02810440    | 2            | D          | 16,0 | 16,0 | 34,0  | 90,0  | 4,0 | 4     | Weldon | ■              |
| 554200R050Z4.3-SIRON-A  | 02679567    | 2            | D          | 20,0 | 20,0 | 42,0  | 100,0 | 0,5 | 4     | Weldon | ■              |
| 554200R100Z4.3-SIRON-A  | 02679570    | 2            | D          | 20,0 | 20,0 | 42,0  | 100,0 | 1,0 | 4     | Weldon | ■              |
| 554200R250Z4.3-SIRON-A  | 02810442    | 2            | D          | 20,0 | 20,0 | 42,0  | 100,0 | 2,5 | 4     | Weldon | ■              |
| 554200R310Z4.3-SIRON-A  | 02810444    | 2            | D          | 20,0 | 20,0 | 42,0  | 100,0 | 3,1 | 4     | Weldon | ■              |
| 554200R400Z4.3-SIRON-A  | 02810446    | 2            | D          | 20,0 | 20,0 | 42,0  | 100,0 | 4,0 | 4     | Weldon | ■              |
| 554250R050Z4.3-SIRON-A  | 02679574    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 0,5 | 4     | Weldon | ■              |
| 554250R100Z4.3-SIRON-A  | 02679576    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 1,0 | 4     | Weldon | ■              |
| 554250R310Z4.3-SIRON-A  | 02810448    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 3,1 | 4     | Weldon | ■              |
| 554250R400Z4.3-SIRON-A  | 02810451    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 4,0 | 4     | Weldon | ■              |

■ Stocked standard.

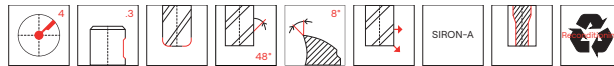


## JS554

High performance – Universal – Square – 4 Flutes – Weldon – Corner radius



- Tolerances:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible if DC is ≥Ø6



| Designation             | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE   | PCEDC | Shank  | Stock standard |
|-------------------------|-------------|--------------|------------|------|------|-------|-------|------|------|------|-------|--------|----------------|
|                         |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm   |       |        |                |
| JS554030G2R015.3Z4-SIRA | 02881706    | 2            | G          | 3,0  | 6,0  | 7,0   | 57,0  | 10,0 | 2,85 | 0,15 | 4     | Weldon | □              |
| JS554040G2R020.3Z4-SIRA | 02881946    | 2            | G          | 4,0  | 6,0  | 10,0  | 57,0  | 13,0 | 3,8  | 0,2  | 4     | Weldon | ■              |
| JS554050G2R020.3Z4-SIRA | 02881708    | 2            | G          | 5,0  | 6,0  | 12,0  | 57,0  | 16,0 | 4,75 | 0,2  | 4     | Weldon | □              |
| JS554060E2R020.3Z4-SIRA | 03029977    | 2            | E          | 6,0  | 6,0  | 14,0  | 57,0  | 18,0 | 5,7  | 0,2  | 4     | Weldon | ■              |
| JS554060E2R050.3Z4-SIRA | 02881709    | 2            | E          | 6,0  | 6,0  | 14,0  | 57,0  | 18,0 | 5,7  | 0,5  | 4     | Weldon | □              |
| JS554060E2R100.3Z4-SIRA | 03029952    | 2            | E          | 6,0  | 6,0  | 14,0  | 57,0  | 18,0 | 5,7  | 1,0  | 4     | Weldon | □              |
| JS554080E2R050.3Z4-SIRA | 03029979    | 2            | E          | 8,0  | 8,0  | 18,0  | 63,0  | 25,0 | 7,6  | 0,5  | 4     | Weldon | □              |
| JS554080E2R100.3Z4-SIRA | 02881710    | 2            | E          | 8,0  | 8,0  | 18,0  | 63,0  | 25,0 | 7,6  | 1,0  | 4     | Weldon | □              |
| JS554100E2R050.3Z4-SIRA | 03029981    | 2            | E          | 10,0 | 10,0 | 22,0  | 72,0  | 29,0 | 9,5  | 0,5  | 4     | Weldon | ■              |
| JS554100E2R100.3Z4-SIRA | 03029982    | 2            | E          | 10,0 | 10,0 | 22,0  | 72,0  | 29,0 | 9,5  | 1,0  | 4     | Weldon | □              |
| JS554100E2R200.3Z4-SIRA | 02881711    | 2            | E          | 10,0 | 10,0 | 22,0  | 72,0  | 29,0 | 9,5  | 2,0  | 4     | Weldon | ■              |
| JS554100E2R250.3Z4-SIRA | 03029953    | 2            | E          | 10,0 | 10,0 | 22,0  | 72,0  | 29,0 | 9,5  | 2,5  | 4     | Weldon | □              |
| JS554120E2R050.3Z4-SIRA | 03029984    | 2            | E          | 12,0 | 12,0 | 26,0  | 83,0  | 35,0 | 11,4 | 0,5  | 4     | Weldon | ■              |
| JS554120E2R100.3Z4-SIRA | 03029985    | 2            | E          | 12,0 | 12,0 | 26,0  | 83,0  | 35,0 | 11,4 | 1,0  | 4     | Weldon | □              |
| JS554120E2R200.3Z4-SIRA | 02881712    | 2            | E          | 12,0 | 12,0 | 26,0  | 83,0  | 35,0 | 11,4 | 2,0  | 4     | Weldon | □              |
| JS554120E2R250.3Z4-SIRA | 02881713    | 2            | E          | 12,0 | 12,0 | 26,0  | 83,0  | 35,0 | 11,4 | 2,5  | 4     | Weldon | □              |
| JS554120E2R300.3Z4-SIRA | 03029954    | 2            | E          | 12,0 | 12,0 | 26,0  | 83,0  | 35,0 | 11,4 | 3,0  | 4     | Weldon | □              |
| JS554160E2R050.3Z4-SIRA | 03029987    | 2            | E          | 16,0 | 16,0 | 34,0  | 92,0  | 42,0 | 15,2 | 0,5  | 4     | Weldon | ■              |
| JS554160E2R600.3Z4-SIRA | 03093687    | 2            | E          | 16,0 | 16,0 | 34,0  | 92,0  | 42,0 | 15,2 | 6,0  | 4     | Weldon | □              |
| JS554200E2R200.3Z4-SIRA | 02881714    | 2            | E          | 20,0 | 20,0 | 42,0  | 110,0 | 54,0 | 19,0 | 2,0  | 4     | Weldon | □              |
| JS554200E2R600.3Z4-SIRA | 03029955    | 2            | E          | 20,0 | 20,0 | 42,0  | 109,0 | 54,0 | 19,0 | 6,0  | 4     | Weldon | □              |
| JS554250E2R600.3Z4-SIRA | 03093688    | 2            | E          | 25,0 | 25,0 | 52,0  | 125,0 | 65,0 | 23,8 | 6,0  | 4     | Weldon | □              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

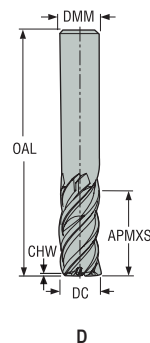
Graphite

X-Heads

Minimaster

JS554

High performance – Universal – Square – 4 Flutes – Cylindrical – Chamfer – Inch



—Tolerances:

—DMM=h5

—DC=e7

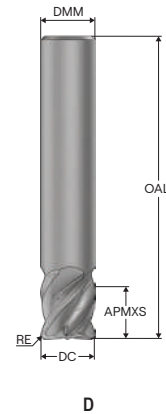
—Regrind possible if DC is  $\geq \varnothing.375$ 


| Designation         | Item number | Length index | Tool shape | DC            | DMM           | APMXS         | OAL           | CHW           | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|---------------|---------------|---------------|---------------|---------------|-------|-------------|----------------|
| 5540250Z4.0-SIRON-A | 02711329    | 2            | D          | inch<br>0.250 | inch<br>0.250 | inch<br>0.500 | inch<br>2.500 | inch<br>0.003 | 4     | Cylindrical | ■              |
| 5540312Z4.0-SIRON-A | 02711340    | 2            | D          | 0.313         | 0.313         | 0.625         | 2.500         | 0.004         | 4     | Cylindrical | ■              |
| 5540375Z4.0-SIRON-A | 02711344    | 2            | D          | 0.375         | 0.375         | 0.750         | 3.000         | 0.005         | 4     | Cylindrical | ■              |
| 5540500Z4.0-SIRON-A | 02711611    | 2            | D          | 0.500         | 0.500         | 1.000         | 3.500         | 0.006         | 4     | Cylindrical | ■              |
| 5540625Z4.0-SIRON-A | 02711626    | 2            | D          | 0.625         | 0.625         | 1.250         | 3.750         | 0.008         | 4     | Cylindrical | ■              |
| 5540750Z4.0-SIRON-A | 02711643    | 2            | D          | 0.750         | 0.750         | 1.500         | 4.000         | 0.010         | 4     | Cylindrical | ■              |
| 5541000Z4.0-SIRON-A | 02711660    | 2            | D          | 1.000         | 1.000         | 2.000         | 5.000         | 0.012         | 4     | Cylindrical | ■              |

■ Stocked standard.

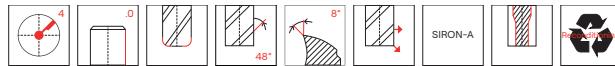
JS554

High performance – Universal – Square – 4 Flutes – Cylindrical – Corner radius – Inch



D

- Tolerances:
- DMM=h5
- DC=e7
- RE=  $\pm 0.008$  inch
- Regrind possible if DC is  $\geq \varnothing.375$



| Designation             | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
|                         |             |              |            | inch  | inch  | inch  | inch  | inch  |       |             |                |
| 5540250R015Z4.0-SIRON-A | 02711335    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.500 | 0.015 | 4     | Cylindrical | ■              |
| 5540312R015Z4.0-SIRON-A | 02711341    | 2            | D          | 0.313 | 0.313 | 0.625 | 2.500 | 0.015 | 4     | Cylindrical | ■              |
| 5540375R015Z4.0-SIRON-A | 02711588    | 2            | D          | 0.375 | 0.375 | 0.750 | 3.000 | 0.015 | 4     | Cylindrical | ■              |
| 5540375R030Z4.0-SIRON-A | 02711589    | 2            | D          | 0.375 | 0.375 | 0.750 | 3.000 | 0.030 | 4     | Cylindrical | ■              |
| 5540500R015Z4.0-SIRON-A | 02711614    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.500 | 0.015 | 4     | Cylindrical | ■              |
| 5540500R030Z4.0-SIRON-A | 02711616    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.500 | 0.030 | 4     | Cylindrical | ■              |
| 5540500R125Z4.0-SIRON-A | 02842370    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.500 | 0.125 | 4     | Cylindrical | ■              |
| 5540625R015Z4.0-SIRON-A | 02711629    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.750 | 0.015 | 4     | Cylindrical | ■              |
| 5540625R030Z4.0-SIRON-A | 02711631    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.750 | 0.030 | 4     | Cylindrical | ■              |
| 5540625R125Z4.0-SIRON-A | 02842371    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.750 | 0.125 | 4     | Cylindrical | ■              |
| 5540750R030Z4.0-SIRON-A | 02711647    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.030 | 4     | Cylindrical | ■              |
| 5540750R060Z4.0-SIRON-A | 02711655    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.060 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

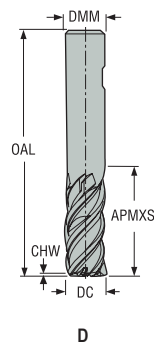
Graphite

X-Heads

Minimaster

JS554

High performance – Universal – Square – 4 Flutes – Weldon – Chamfer – inch



—Tolerances:

—DMM=h5

—DC=e7

—Regrind possible

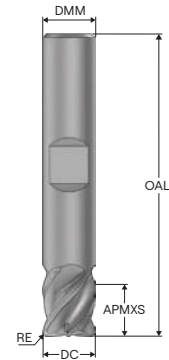


| Designation         | Item number | Length index | Tool shape | DC            | DMM           | APMXS         | OAL           | CHW           | PCEDC | Shank  | Stock standard |
|---------------------|-------------|--------------|------------|---------------|---------------|---------------|---------------|---------------|-------|--------|----------------|
| 5540500Z4.3-SIRON-A | 02711608    | 2            | D          | inch<br>0.500 | inch<br>0.500 | inch<br>1.000 | inch<br>3.500 | inch<br>0.006 | 4     | Weldon | ■              |
| 5540750Z4.3-SIRON-A | 02711632    | 2            | D          | 0.750         | 0.750         | 1.500         | 4.000         | 0.010         | 4     | Weldon | ■              |

■ Stocked standard.

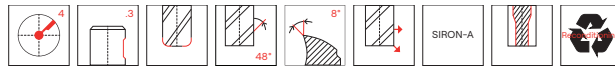
JS554

High performance – Universal – Square – 4 Flutes – Weldon – Corner radius – Inch



D

- Tolerances:
- DMM=h5
- DC=e7
- RE=  $\pm 0.008$  inch
- Regrind possible



| Designation             | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank  | Stock standard |
|-------------------------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|--------|----------------|
|                         |             |              |            | inch  | inch  | inch  | inch  | inch  |       |        |                |
| 5540500R015Z4.3-SIRON-A | 02711613    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.500 | 0.015 | 4     | Weldon | ■              |
| 5540500R030Z4.3-SIRON-A | 02711615    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.500 | 0.030 | 4     | Weldon | ■              |
| 5540500R125Z4.3-SIRON-A | 02856456    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.500 | 0.125 | 4     | Weldon | □              |
| 5540625R125Z4.3-SIRON-A | 02856457    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.750 | 0.125 | 4     | Weldon | □              |
| 5541000R060Z4.3-SIRON-A | 02711663    | 2            | D          | 1.000 | 1.000 | 2.000 | 5.000 | 0.060 | 4     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JS554 Side milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>   |                  |                  |                 |                 |                 |                 |                 |                 |                 | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                    |                    | 3                | 4                | 5                | 6               | 8               | 10              | 12              | 16              | 20              | 25              |                                       |
| P1  | M/A/D/E                                                                           | 0.400<br>0,400     | 1.0<br>1,0         | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 0.19<br>0,0075  | 215 (190 — 240)<br>710 (630 — 780)    |
| P2  | M/A/D/E                                                                           | 0.400<br>0,400     | 1.0<br>1,0         | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 0.19<br>0,0075  | 210 (190 — 240)<br>690 (630 — 780)    |
| P3  | M/A/D/E                                                                           | 0.400<br>0,400     | 1.0<br>1,0         | 0.028<br>0,0011  | 0.038<br>0,0015  | 0.048<br>0,0019  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.16<br>0,0065  | 0.18<br>0,0070  | 185 (160 — 200)<br>610 (530 — 650)    |
| P4  | M/A/D/E                                                                           | 0.400<br>0,400     | 1.0<br>1,0         | 0.028<br>0,0011  | 0.038<br>0,0015  | 0.046<br>0,0018  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.16<br>0,0065  | 0.18<br>0,0070  | 160 (140 — 180)<br>520 (460 — 590)    |
| P5  | M/A/D/E                                                                           | 0.400<br>0,400     | 1.0<br>1,0         | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.046<br>0,0018  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.16<br>0,0065  | 0.18<br>0,0070  | 155 (140 — 170)<br>510 (460 — 550)    |
| P6  | M/A/D/E                                                                           | 0.400<br>0,400     | 1.0<br>1,0         | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.046<br>0,0018  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 0.17<br>0,0065  | 175 (160 — 200)<br>570 (530 — 650)    |
| P7  | M/A/D/E                                                                           | 0.400<br>0,400     | 1.0<br>1,0         | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.046<br>0,0018  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 0.17<br>0,0065  | 165 (150 — 180)<br>540 (500 — 590)    |
| P8  | M/A/D/E                                                                           | 0.400<br>0,400     | 1.0<br>1,0         | 0.028<br>0,0011  | 0.038<br>0,0015  | 0.048<br>0,0019  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.16<br>0,0065  | 0.18<br>0,0070  | 155 (140 — 170)<br>510 (460 — 550)    |
| P11 | M/A/D/E                                                                           | 0.400<br>0,400     | 1.0<br>1,0         | 0.026<br>0,0010  | 0.036<br>0,0014  | 0.044<br>0,0017  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 0.17<br>0,0065  | 140 (130 — 150)<br>460 (430 — 490)    |
| P12 | M/A/D/E                                                                           | 0.400<br>0,400     | 1.0<br>1,0         | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048  | 90 (79 — 100)<br>295 (260 — 320)      |
| M1  | E                                                                                 | 0.400<br>0,400     | 1.0<br>1,0         | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.034<br>0,0013  | 0.040<br>0,0016 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.13<br>0,0050  | 110 (96 — 120)<br>0,00360 (320 — 390) |
| M2  | E                                                                                 | 0.400<br>0,400     | 1.0<br>1,0         | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048  | 90 (79 — 100)<br>295 (260 — 320)      |
| M3  | E                                                                                 | 0.400<br>0,400     | 0.90<br>0,90       | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 55 (45 — 66)<br>180 (150 — 210)       |
| M4  | E                                                                                 | 0.400<br>0,400     | 0.90<br>0,90       | 0.013<br>0,00050 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.026<br>0,0010 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 43 (35 — 51)<br>140 (120 — 160)       |
| M5  | E                                                                                 | 0.400<br>0,400     | 0.90<br>0,90       | 0.013<br>0,00050 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.026<br>0,0010 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 36 (29 — 42)<br>120 (96 — 130)        |
| K1  | E                                                                                 | 0.400<br>0,400     | 1.2<br>1,2         | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.16<br>0,0065  | 175 (160 — 190)<br>570 (530 — 620)    |
| K2  | E                                                                                 | 0.400<br>0,400     | 1.2<br>1,2         | 0.022<br>0,00085 | 0.030<br>0,0012  | 0.038<br>0,0015  | 0.044<br>0,0017 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.14<br>0,0055  | 155 (140 — 170)<br>510 (460 — 550)    |
| K3  | E                                                                                 | 0.400<br>0,400     | 1.2<br>1,2         | 0.022<br>0,00085 | 0.030<br>0,0012  | 0.038<br>0,0015  | 0.044<br>0,0017 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.14<br>0,0055  | 130 (120 — 140)<br>425 (400 — 450)    |
| K4  | E                                                                                 | 0.400<br>0,400     | 1.2<br>1,2         | 0.022<br>0,00085 | 0.030<br>0,0012  | 0.038<br>0,0015  | 0.044<br>0,0017 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.14<br>0,0055  | 125 (110 — 140)<br>410 (370 — 450)    |
| K5  | E                                                                                 | 0.400<br>0,400     | 1.0<br>1,0         | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.16<br>0,0065  | 155 (140 — 170)<br>510 (460 — 550)    |
| K6  | E                                                                                 | 0.400<br>0,400     | 1.0<br>1,0         | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.046<br>0,0018  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 0.17<br>0,0065  | 220 (190 — 250)<br>720 (630 — 820)    |
| K7  | E                                                                                 | 0.400<br>0,400     | 1.0<br>1,0         | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.16<br>0,0065  | 195 (170 — 220)<br>640 (560 — 720)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
v<sub>c</sub> = m/min (sf/min)  
f<sub>z</sub> = mm (in/tooth)  
a<sub>p</sub> = mm/DC (in/DC) = factor  
a<sub>e</sub> = mm/DC (in/DC) = factor  
All cutting data are target values

## Cutting data – JS554 Side milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>   |                  |                 |                 |                 |                 |                 |                 |                 |                | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|---------------------------------------|
|     |                                                                                   |                    |                    | 3                | 4                | 5               | 6               | 8               | 10              | 12              | 16              | 20              | 25             |                                       |
| N1  | E                                                                                 | 0.500<br>0.500     | 0.90<br>0.90       | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060 | 610 (510 — 710)<br>2000 (1700 — 2300) |
| N2  | E                                                                                 | 0.500<br>0.500     | 0.90<br>0.90       | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060 | 390 (330 — 450)<br>1275 (1100 — 1400) |
| N11 | E                                                                                 | 0.500<br>0.500     | 1.1<br>1,1         | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060 | 320 (270 — 370)<br>1050 (890 — 1200)  |
| S11 | E                                                                                 | 0.400<br>0.400     | 0.70<br>0.70       | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048 | 100 (72 — 120)<br>330 (240 — 390)     |
| S12 | E                                                                                 | 0.400<br>0.400     | 0.70<br>0.70       | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048 | 75 (56 — 99)<br>245 (190 — 320)       |
| S13 | E                                                                                 | 0.400<br>0.400     | 0.70<br>0.70       | 0.016<br>0,00065 | 0.022<br>0,00085 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040 | 60 (44 — 78)<br>195 (150 — 250)       |
| H5  | M/A/D                                                                             | 0.200<br>0,200     | 0.90<br>0,90       | 0.022<br>0,00085 | 0.030<br>0,0012  | 0.038<br>0,0015 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.14<br>0,0055 | 75 (59 — 88)<br>245 (200 — 280)       |
| H8  | M/A/D                                                                             | 0.200<br>0,200     | 0.90<br>0,90       | 0.017<br>0,00065 | 0.022<br>0,00085 | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.095<br>0,0038 | 0.11<br>0,0044 | 80 (63 — 93)<br>260 (210 — 300)       |
| H11 | M/A/D                                                                             | 0.200<br>0,200     | 0.90<br>0,90       | 0.022<br>0,00085 | 0.030<br>0,0012  | 0.038<br>0,0015 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.14<br>0,0055 | 95 (75 — 110)<br>310 (250 — 360)      |
| H12 | M/A/D                                                                             | 0.200<br>0,200     | 0.90<br>0,90       | 0.017<br>0,00065 | 0.022<br>0,00085 | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.095<br>0,0038 | 0.11<br>0,0044 | 90 (73 — 100)<br>295 (240 — 320)      |
| H21 | M/A/D                                                                             | 0.200<br>0,200     | 0.90<br>0,90       | 0.017<br>0,00065 | 0.022<br>0,00085 | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.095<br>0,0038 | 0.11<br>0,0044 | 155 (110 — 190)<br>510 (370 — 620)    |
| TS1 | A                                                                                 | 0.500<br>0.500     | 1.0<br>1,0         | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 0.19<br>0,0075 | 285 (180 — 400)<br>940 (600 — 1300)   |
| TP1 | A                                                                                 | 0.500<br>0.500     | 1.0<br>1,0         | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 0.19<br>0,0075 | 295 (180 — 410)<br>970 (600 — 1300)   |
| GR1 | A                                                                                 | 0.500<br>0.500     | 1.1<br>1,1         | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 0.19<br>0,0075 | 580 (470 — 690)<br>1900 (1600 — 2200) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JS554 Slot milling

| SMG |  | $a_p$ /DC    | $f_z$             |                  |                  |                  |                 |                 |                 |                 |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|--------------|-------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |              | 3                 | 4                | 5                | 6                | 8               | 10              | 12              | 16              | 20              | 25              |                                    |
| P1  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.15<br>0,0060  | 195 (170 — 220)<br>640 (560 — 720) |
| P2  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.15<br>0,0060  | 190 (170 — 210)<br>620 (560 — 680) |
| P3  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.15<br>0,0060  | 165 (140 — 180)<br>540 (460 — 590) |
| P4  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.15<br>0,0060  | 145 (130 — 160)<br>475 (430 — 520) |
| P5  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.15<br>0,0060  | 135 (120 — 150)<br>445 (400 — 490) |
| P6  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.15<br>0,0060  | 155 (140 — 170)<br>510 (460 — 550) |
| P7  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.15<br>0,0060  | 145 (130 — 160)<br>475 (430 — 520) |
| P8  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.15<br>0,0060  | 135 (120 — 150)<br>445 (400 — 490) |
| P11 | M/A/D/E                                                                           | 0.80<br>0,80 | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 130 (120 — 140)<br>425 (400 — 450) |
| P12 | M/A/D/E                                                                           | 0.80<br>0,80 | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 80 (69 — 87)<br>260 (230 — 280)    |
| M1  | E                                                                                 | 0.80<br>0,80 | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 95 (85 — 100)<br>310 (280 — 320)   |
| M2  | E                                                                                 | 0.80<br>0,80 | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 80 (69 — 87)<br>260 (230 — 280)    |
| M3  | E                                                                                 | 0.60<br>0,60 | 0.0095<br>0,00038 | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.019<br>0,00075 | 0.025<br>0,0010 | 0.032<br>0,0013 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 48 (39 — 57)<br>155 (130 — 180)    |
| M4  | E                                                                                 | 0.60<br>0,60 | 0.0095<br>0,00038 | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.019<br>0,00075 | 0.025<br>0,0010 | 0.032<br>0,0013 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 36 (29 — 43)<br>120 (96 — 140)     |
| M5  | E                                                                                 | 0.60<br>0,60 | 0.0095<br>0,00038 | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.019<br>0,00075 | 0.025<br>0,0010 | 0.032<br>0,0013 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 30 (25 — 36)<br>100 (83 — 110)     |
| K1  | E                                                                                 | 1.0<br>1,0   | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 155 (140 — 170)<br>510 (460 — 550) |
| K2  | E                                                                                 | 1.0<br>1,0   | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 135 (120 — 150)<br>445 (400 — 490) |
| K3  | E                                                                                 | 1.0<br>1,0   | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 115 (110 — 120)<br>375 (370 — 390) |
| K4  | E                                                                                 | 1.0<br>1,0   | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 110 (96 — 120)<br>360 (320 — 390)  |
| K5  | E                                                                                 | 0.70<br>0,70 | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 135 (120 — 150)<br>445 (400 — 490) |
| K6  | E                                                                                 | 0.70<br>0,70 | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 200 (180 — 220)<br>660 (600 — 720) |
| K7  | E                                                                                 | 0.70<br>0,70 | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 175 (150 — 190)<br>570 (500 — 620) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm/tooth (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values



## Cutting data – JS554 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |         |        |        |        |        | v <sub>c</sub>     |                                 |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------------------|---------------------------------|
|     |                                                                                   |                    | 3              | 4       | 5       | 6       | 8       | 10      | 12     | 16     | 20     | 25     |                    |                                 |
| N1  | E                                                                                 | 0.50               | 0.015          | 0.020   | 0.025   | 0.030   | 0.040   | 0.050   | 0.060  | 0.080  | 0.10   | 0.13   | 570 (480 — 670)    | Universal                       |
|     |                                                                                   | 0,50               | 0,00060        | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0020  | 0,0024 | 0,0032 | 0,0040 | 0,0050 | 1875 (1600 — 2100) |                                 |
| N2  | E                                                                                 | 0.50               | 0.015          | 0.020   | 0.025   | 0.030   | 0.040   | 0.050   | 0.060  | 0.080  | 0.10   | 0.13   | 370 (310 — 430)    | Steel and cast iron             |
|     |                                                                                   | 0,50               | 0,00060        | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0020  | 0,0024 | 0,0032 | 0,0040 | 0,0050 | 1225 (1100 — 1400) |                                 |
| N3  | E                                                                                 | 0.50               | 0.015          | 0.020   | 0.025   | 0.030   | 0.040   | 0.050   | 0.060  | 0.080  | 0.10   | 0.13   | 245 (210 — 280)    |                                 |
|     |                                                                                   | 0,50               | 0,00060        | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0020  | 0,0024 | 0,0032 | 0,0040 | 0,0050 | 800 (690 — 910)    |                                 |
| N11 | E                                                                                 | 0.60               | 0.018          | 0.024   | 0.030   | 0.036   | 0.048   | 0.060   | 0.070  | 0.095  | 0.12   | 0.15   | 290 (250 — 330)    | Steel and cast iron             |
|     |                                                                                   | 0,60               | 0,00070        | 0,00095 | 0,0012  | 0,0014  | 0,0019  | 0,0024  | 0,0028 | 0,0038 | 0,0048 | 0,0060 | 950 (830 — 1000)   |                                 |
| S1  | E                                                                                 | 0.30               | 0.0095         | 0.013   | 0.016   | 0.019   | 0.025   | 0.032   | 0.038  | 0.050  | 0.065  | 0.080  | 30 (25 — 34)       |                                 |
|     |                                                                                   | 0,30               | 0,00038        | 0,00050 | 0,00065 | 0,00075 | 0,0010  | 0,0013  | 0,0015 | 0,0020 | 0,0026 | 0,0032 | 100 (83 — 110)     |                                 |
| S2  | E                                                                                 | 0.30               | 0.0095         | 0.013   | 0.016   | 0.019   | 0.025   | 0.032   | 0.038  | 0.050  | 0.065  | 0.080  | 27 (17 — 38)       | Stainless steel and S-materials |
|     |                                                                                   | 0,30               | 0,00038        | 0,00050 | 0,00065 | 0,00075 | 0,0010  | 0,0013  | 0,0015 | 0,0020 | 0,0026 | 0,0032 | 90 (56 — 120)      |                                 |
| S3  | E                                                                                 | 0.30               | 0.0095         | 0.013   | 0.016   | 0.019   | 0.025   | 0.032   | 0.038  | 0.050  | 0.065  | 0.080  | 23 (15 — 32)       |                                 |
|     |                                                                                   | 0,30               | 0,00038        | 0,00050 | 0,00065 | 0,00075 | 0,0010  | 0,0013  | 0,0015 | 0,0020 | 0,0026 | 0,0032 | 75 (50 — 100)      |                                 |
| S11 | E                                                                                 | 0.50               | 0.012          | 0.016   | 0.020   | 0.025   | 0.032   | 0.040   | 0.050  | 0.065  | 0.080  | 0.10   | 85 (63 — 110)      | Stainless steel and S-materials |
|     |                                                                                   | 0,50               | 0,00048        | 0,00065 | 0,00080 | 0,0010  | 0,0013  | 0,0016  | 0,0020 | 0,0026 | 0,0032 | 0,0040 | 280 (210 — 360)    |                                 |
| S12 | E                                                                                 | 0.50               | 0.012          | 0.016   | 0.020   | 0.025   | 0.032   | 0.040   | 0.050  | 0.065  | 0.080  | 0.10   | 65 (48 — 86)       |                                 |
|     |                                                                                   | 0,50               | 0,00048        | 0,00065 | 0,00080 | 0,0010  | 0,0013  | 0,0016  | 0,0020 | 0,0026 | 0,0032 | 0,0040 | 215 (160 — 280)    |                                 |
| S13 | E                                                                                 | 0.50               | 0.012          | 0.016   | 0.020   | 0.025   | 0.032   | 0.040   | 0.050  | 0.065  | 0.080  | 0.10   | 50 (38 — 66)       | Non ferrous                     |
|     |                                                                                   | 0,50               | 0,00048        | 0,00065 | 0,00080 | 0,0010  | 0,0013  | 0,0016  | 0,0020 | 0,0026 | 0,0032 | 0,0040 | 165 (130 — 210)    |                                 |
| H5  | M/A/D                                                                             | 0.40               | 0.0060         | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 0.032  | 0.040  | 0.050  | 65 (52 — 76)       |                                 |
|     |                                                                                   | 0,40               | 0,00024        | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 0,0013 | 0,0016 | 0,0020 | 215 (180 — 240)    |                                 |
| H8  | M/A/D                                                                             | 0.40               | 0.0060         | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 0.032  | 0.040  | 0.050  | 65 (52 — 76)       | Non ferrous                     |
|     |                                                                                   | 0,40               | 0,00024        | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 0,0013 | 0,0016 | 0,0020 | 215 (180 — 240)    |                                 |
| H11 | M/A/D                                                                             | 0.40               | 0.0060         | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 0.032  | 0.040  | 0.050  | 80 (66 — 97)       |                                 |
|     |                                                                                   | 0,40               | 0,00024        | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 0,0013 | 0,0016 | 0,0020 | 260 (220 — 310)    |                                 |
| H12 | M/A/D                                                                             | 0.40               | 0.0060         | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 0.032  | 0.040  | 0.050  | 75 (60 — 89)       | Hard                            |
|     |                                                                                   | 0,40               | 0,00024        | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 0,0013 | 0,0016 | 0,0020 | 245 (200 — 290)    |                                 |
| H21 | M/A/D                                                                             | 0.40               | 0.0060         | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 0.032  | 0.040  | 0.050  | 125 (90 — 160)     |                                 |
|     |                                                                                   | 0,40               | 0,00024        | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 0,0013 | 0,0016 | 0,0020 | 410 (300 — 520)    |                                 |
| TS1 | A                                                                                 | 0.70               | 0.030          | 0.040   | 0.050   | 0.060   | 0.080   | 0.10    | 0.12   | 0.15   | 0.17   | 0.19   | 240 (150 — 330)    | Hard                            |
|     |                                                                                   | 0,70               | 0,0012         | 0,0016  | 0,0020  | 0,0024  | 0,0032  | 0,0040  | 0,0048 | 0,0060 | 0,0065 | 0,0075 | 790 (500 — 1000)   |                                 |
| TP1 | A                                                                                 | 0.70               | 0.030          | 0.040   | 0.050   | 0.060   | 0.080   | 0.10    | 0.12   | 0.15   | 0.17   | 0.19   | 250 (150 — 340)    |                                 |
|     |                                                                                   | 0,70               | 0,0012         | 0,0016  | 0,0020  | 0,0024  | 0,0032  | 0,0040  | 0,0048 | 0,0060 | 0,0065 | 0,0075 | 820 (500 — 1100)   |                                 |
| GR1 | A                                                                                 | 0.80               | 0.030          | 0.040   | 0.050   | 0.060   | 0.080   | 0.10    | 0.12   | 0.15   | 0.17   | 0.19   | 485 (390 — 580)    | Plastic and cfrp                |
|     |                                                                                   | 0,80               | 0,0012         | 0,0016  | 0,0020  | 0,0024  | 0,0032  | 0,0040  | 0,0048 | 0,0060 | 0,0065 | 0,0075 | 1600 (1300 — 1900) |                                 |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm/tooth (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JS554 Side milling roughing – Inch

| SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$           |                 |                 |                 |                 |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                |              | 1/4             | 5/16            | 3/8             | 1/2             | 5/8             | 3/4             | 1               |                                    |
| P1  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0   | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.16<br>0,0065  | 0.19<br>0,0075  | 215 (190 — 240)<br>710 (630 — 780) |
| P2  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0   | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.13<br>0,0050  | 0.15<br>0,0060  | 0.17<br>0,0065  | 0.20<br>0,0080  | 210 (190 — 240)<br>690 (630 — 780) |
| P3  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0   | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.16<br>0,0065  | 0.18<br>0,0070  | 185 (160 — 200)<br>610 (530 — 650) |
| P4  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0   | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 0.18<br>0,0070  | 160 (140 — 180)<br>520 (460 — 590) |
| P5  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0   | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 0.18<br>0,0070  | 155 (140 — 170)<br>510 (460 — 550) |
| P6  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0   | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 0.18<br>0,0070  | 175 (160 — 200)<br>570 (530 — 650) |
| P7  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0   | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 0.18<br>0,0070  | 165 (150 — 180)<br>540 (500 — 590) |
| P8  | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0   | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.16<br>0,0065  | 0.18<br>0,0070  | 155 (140 — 170)<br>510 (460 — 550) |
| P11 | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0   | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 0.17<br>0,0065  | 140 (130 — 150)<br>460 (430 — 490) |
| P12 | M/A/D/E                                                                           | 0.400<br>0,400 | 1.0<br>1,0   | 0.038<br>0,0015 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048  | 90 (79 — 100)<br>295 (260 — 320)   |
| M1  | E                                                                                 | 0.400<br>0,400 | 1.0<br>1,0   | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.13<br>0,0050  | 110 (96 — 120)<br>360 (320 — 390)  |
| M2  | E                                                                                 | 0.400<br>0,400 | 1.0<br>1,0   | 0.038<br>0,0015 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048  | 90 (79 — 100)<br>295 (260 — 320)   |
| M3  | E                                                                                 | 0.400<br>0,400 | 0.90<br>0,90 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.10<br>0,0040  | 55 (45 — 66)<br>180 (150 — 210)    |
| M4  | E                                                                                 | 0.400<br>0,400 | 0.90<br>0,90 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 43 (35 — 51)<br>140 (120 — 160)    |
| M5  | E                                                                                 | 0.400<br>0,400 | 0.90<br>0,90 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 36 (29 — 42)<br>120 (96 — 130)     |
| K1  | E                                                                                 | 0.400<br>0,400 | 1.2<br>1,2   | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.16<br>0,0065  | 175 (160 — 190)<br>570 (530 — 620) |
| K2  | E                                                                                 | 0.400<br>0,400 | 1.2<br>1,2   | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.14<br>0,0055  | 155 (140 — 170)<br>510 (460 — 550) |
| K3  | E                                                                                 | 0.400<br>0,400 | 1.2<br>1,2   | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.14<br>0,0055  | 130 (120 — 140)<br>425 (400 — 450) |
| K4  | E                                                                                 | 0.400<br>0,400 | 1.2<br>1,2   | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.14<br>0,0055  | 125 (110 — 140)<br>410 (370 — 450) |
| K5  | E                                                                                 | 0.400<br>0,400 | 1.0<br>1,0   | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.16<br>0,0065  | 155 (140 — 170)<br>510 (460 — 550) |
| K6  | E                                                                                 | 0.400<br>0,400 | 1.0<br>1,0   | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 0.17<br>0,0065  | 220 (190 — 250)<br>720 (630 — 820) |
| K7  | E                                                                                 | 0.400<br>0,400 | 1.0<br>1,0   | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.16<br>0,0065  | 195 (170 — 220)<br>640 (560 — 720) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm/tooth (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – JS554 Side milling roughing – Inch

| SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$           |                 |                 |                 |                 |                 |                 | $v_c$                                 |                                 |
|-----|-----------------------------------------------------------------------------------|----------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                |              | 1/4             | 5/16            | 3/8             | 1/2             | 5/8             | 3/4             | 1               |                                       |                                 |
| N1  | E                                                                                 | 0.500<br>0,500 | 0.90<br>0,90 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060  | 610 (510 — 710)<br>2000 (1700 — 2300) | Steel and cast iron             |
| N2  | E                                                                                 | 0.500<br>0,500 | 0.90<br>0,90 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060  | 390 (330 — 450)<br>1275 (1100 — 1400) |                                 |
| N3  | E                                                                                 | 0.500<br>0,500 | 0.90<br>0,90 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060  | 260 (220 — 300)<br>850 (730 — 980)    |                                 |
| N11 | E                                                                                 | 0.500<br>0,500 | 1.1<br>1,1   | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060  | 320 (270 — 370)<br>1050 (890 — 1200)  |                                 |
| S1  | E                                                                                 | 0.150<br>0,150 | 0.50<br>0,50 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.14<br>0,0055  | 0.17<br>0,0065  | 38 (32 — 44)<br>125 (110 — 140)       | Stainless steel and S-materials |
| S2  | E                                                                                 | 0.150<br>0,150 | 0.50<br>0,50 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.14<br>0,0055  | 0.17<br>0,0065  | 35 (21 — 48)<br>115 (69 — 150)        |                                 |
| S3  | E                                                                                 | 0.150<br>0,150 | 0.50<br>0,50 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.16<br>0,0065  | 30 (19 — 42)<br>100 (63 — 130)        |                                 |
| S11 | E                                                                                 | 0.400<br>0,400 | 0.70<br>0,70 | 0.038<br>0,0015 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048  | 100 (72 — 120)<br>330 (240 — 390)     |                                 |
| S12 | E                                                                                 | 0.400<br>0,400 | 0.70<br>0,70 | 0.038<br>0,0015 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048  | 75 (56 — 99)<br>245 (190 — 320)       | Non ferrous                     |
| S13 | E                                                                                 | 0.400<br>0,400 | 0.70<br>0,70 | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 60 (44 — 78)<br>195 (150 — 250)       |                                 |
| H5  | M/A/D                                                                             | 0.200<br>0,200 | 0.90<br>0,90 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.15<br>0,0060  | 75 (59 — 88)<br>245 (200 — 280)       |                                 |
| H8  | M/A/D                                                                             | 0.200<br>0,200 | 0.90<br>0,90 | 0.036<br>0,0014 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.095<br>0,0038 | 0.11<br>0,0044  | 80 (63 — 93)<br>260 (210 — 300)       |                                 |
| H21 | M/A/D                                                                             | 0.200<br>0,200 | 0.90<br>0,90 | 0.036<br>0,0014 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.095<br>0,0038 | 0.11<br>0,0044  | 155 (110 — 190)<br>510 (370 — 620)    | Hard                            |
| H31 | M/A/D                                                                             | 0.200<br>0,200 | 0.90<br>0,90 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.080<br>0,0032 | 0.095<br>0,0038 | 60 (48 — 71)<br>195 (160 — 230)       |                                 |
| TS1 | A                                                                                 | 0.500<br>0,500 | 1.0<br>1,0   | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.16<br>0,0065  | 0.19<br>0,0075  | 285 (180 — 400)<br>940 (600 — 1300)   |                                 |
| TP1 | A                                                                                 | 0.500<br>0,500 | 1.0<br>1,0   | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.16<br>0,0065  | 0.19<br>0,0075  | 295 (180 — 410)<br>970 (600 — 1300)   |                                 |
| GR1 | A                                                                                 | 0.500<br>0,500 | 1.1<br>1,1   | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.16<br>0,0065  | 0.19<br>0,0075  | 580 (470 — 690)<br>1900 (1600 — 2200) | Plastic and cfrp                |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm/tooth (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – JS554 Slot milling – Inch

| SMG |  | $a_p$ /DC    | $f_z$            |                 |                 |                 |                 |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|--------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |              | 1/4              | 5/16            | 3/8             | 1/2             | 5/8             | 3/4             | 1               |                                    |
| P1  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.038<br>0.0015  | 0.048<br>0.0019 | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.15<br>0.0060  | 195 (170 — 220)<br>640 (560 — 720) |
| P2  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.038<br>0.0015  | 0.048<br>0.0019 | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.15<br>0.0060  | 190 (170 — 210)<br>620 (560 — 680) |
| P3  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.038<br>0.0015  | 0.048<br>0.0019 | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.15<br>0.0060  | 165 (140 — 180)<br>540 (460 — 590) |
| P4  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.038<br>0.0015  | 0.048<br>0.0019 | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.15<br>0.0060  | 145 (130 — 160)<br>475 (430 — 520) |
| P5  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.038<br>0.0015  | 0.048<br>0.0019 | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.15<br>0.0060  | 135 (120 — 150)<br>445 (400 — 490) |
| P6  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.038<br>0.0015  | 0.048<br>0.0019 | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.15<br>0.0060  | 155 (140 — 170)<br>510 (460 — 550) |
| P7  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.038<br>0.0015  | 0.048<br>0.0019 | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.15<br>0.0060  | 145 (130 — 160)<br>475 (430 — 520) |
| P8  | M/A/D/E                                                                           | 1.0<br>1.0   | 0.038<br>0.0015  | 0.048<br>0.0019 | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.15<br>0.0060  | 135 (120 — 150)<br>445 (400 — 490) |
| P11 | M/A/D/E                                                                           | 0.80<br>0.80 | 0.025<br>0.0010  | 0.032<br>0.0013 | 0.038<br>0.0015 | 0.050<br>0.0020 | 0.065<br>0.0026 | 0.075<br>0.0030 | 0.10<br>0.0040  | 130 (120 — 140)<br>425 (400 — 450) |
| P12 | M/A/D/E                                                                           | 0.80<br>0.80 | 0.025<br>0.0010  | 0.032<br>0.0013 | 0.038<br>0.0015 | 0.050<br>0.0020 | 0.065<br>0.0026 | 0.075<br>0.0030 | 0.10<br>0.0040  | 80 (69 — 87)<br>260 (230 — 280)    |
| M1  | E                                                                                 | 0.80<br>0.80 | 0.025<br>0.0010  | 0.032<br>0.0013 | 0.038<br>0.0015 | 0.050<br>0.0020 | 0.065<br>0.0026 | 0.075<br>0.0030 | 0.10<br>0.0040  | 95 (85 — 100)<br>310 (280 — 320)   |
| M2  | E                                                                                 | 0.80<br>0.80 | 0.025<br>0.0010  | 0.032<br>0.0013 | 0.038<br>0.0015 | 0.050<br>0.0020 | 0.065<br>0.0026 | 0.075<br>0.0030 | 0.10<br>0.0040  | 80 (69 — 87)<br>260 (230 — 280)    |
| M3  | E                                                                                 | 0.60<br>0.60 | 0.020<br>0.00080 | 0.025<br>0.0010 | 0.030<br>0.0012 | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.080<br>0.0032 | 48 (39 — 57)<br>155 (130 — 180)    |
| M4  | E                                                                                 | 0.60<br>0.60 | 0.020<br>0.00080 | 0.025<br>0.0010 | 0.030<br>0.0012 | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.080<br>0.0032 | 36 (29 — 43)<br>120 (96 — 140)     |
| M5  | E                                                                                 | 0.60<br>0.60 | 0.020<br>0.00080 | 0.025<br>0.0010 | 0.030<br>0.0012 | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.080<br>0.0032 | 30 (25 — 36)<br>100 (83 — 110)     |
| K1  | E                                                                                 | 1.0<br>1.0   | 0.032<br>0.0013  | 0.040<br>0.0016 | 0.048<br>0.0019 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.095<br>0.0038 | 0.13<br>0.0050  | 155 (140 — 170)<br>510 (460 — 550) |
| K2  | E                                                                                 | 1.0<br>1.0   | 0.032<br>0.0013  | 0.040<br>0.0016 | 0.048<br>0.0019 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.095<br>0.0038 | 0.13<br>0.0050  | 135 (120 — 150)<br>445 (400 — 490) |
| K3  | E                                                                                 | 1.0<br>1.0   | 0.032<br>0.0013  | 0.040<br>0.0016 | 0.048<br>0.0019 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.095<br>0.0038 | 0.13<br>0.0050  | 115 (110 — 120)<br>375 (370 — 390) |
| K4  | E                                                                                 | 1.0<br>1.0   | 0.032<br>0.0013  | 0.040<br>0.0016 | 0.048<br>0.0019 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.095<br>0.0038 | 0.13<br>0.0050  | 110 (96 — 120)<br>360 (320 — 390)  |
| K5  | E                                                                                 | 0.70<br>0.70 | 0.032<br>0.0013  | 0.040<br>0.0016 | 0.048<br>0.0019 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.095<br>0.0038 | 0.13<br>0.0050  | 135 (120 — 150)<br>445 (400 — 490) |
| K6  | E                                                                                 | 0.70<br>0.70 | 0.032<br>0.0013  | 0.040<br>0.0016 | 0.048<br>0.0019 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.095<br>0.0038 | 0.13<br>0.0050  | 200 (180 — 220)<br>660 (600 — 720) |
| K7  | E                                                                                 | 0.70<br>0.70 | 0.032<br>0.0013  | 0.040<br>0.0016 | 0.048<br>0.0019 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.095<br>0.0038 | 0.13<br>0.0050  | 175 (150 — 190)<br>570 (500 — 620) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm/tooth (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

## Cutting data – JS554 Slot milling – Inch

| SMG |  | $a_p$ /DC    | $f_z$            |                  |                  |                 |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|--------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |              | 1/4              | 5/16             | 3/8              | 1/2             | 5/8             | 3/4             | 1               |                                       |
| N1  | E                                                                                 | 0.50<br>0.50 | 0.032<br>0.0013  | 0.040<br>0.0016  | 0.048<br>0.0019  | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.095<br>0.0038 | 0.13<br>0.0050  | 570 (480 — 670)<br>1875 (1600 — 2100) |
| N2  | E                                                                                 | 0.50<br>0.50 | 0.032<br>0.0013  | 0.040<br>0.0016  | 0.048<br>0.0019  | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.095<br>0.0038 | 0.13<br>0.0050  | 370 (310 — 430)<br>1225 (1100 — 1400) |
| N3  | E                                                                                 | 0.50<br>0.50 | 0.032<br>0.0013  | 0.040<br>0.0016  | 0.048<br>0.0019  | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.095<br>0.0038 | 0.13<br>0.0050  | 245 (210 — 280)<br>800 (690 — 910)    |
| N11 | E                                                                                 | 0.60<br>0.60 | 0.038<br>0.0015  | 0.048<br>0.0019  | 0.055<br>0.0022  | 0.075<br>0.0030 | 0.095<br>0.0038 | 0.11<br>0.0044  | 0.15<br>0.0060  | 290 (250 — 330)<br>950 (830 — 1000)   |
| S1  | E                                                                                 | 0.30<br>0.30 | 0.020<br>0.00080 | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.080<br>0.0032 | 30 (25 — 34)<br>100 (83 — 110)        |
| S2  | E                                                                                 | 0.30<br>0.30 | 0.020<br>0.00080 | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.080<br>0.0032 | 27 (17 — 38)<br>90 (56 — 120)         |
| S3  | E                                                                                 | 0.30<br>0.30 | 0.020<br>0.00080 | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.080<br>0.0032 | 23 (15 — 32)<br>75 (50 — 100)         |
| S11 | E                                                                                 | 0.50<br>0.50 | 0.026<br>0.0010  | 0.032<br>0.0013  | 0.038<br>0.0015  | 0.050<br>0.0020 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.10<br>0.0040  | 85 (63 — 110)<br>280 (210 — 360)      |
| S12 | E                                                                                 | 0.50<br>0.50 | 0.026<br>0.0010  | 0.032<br>0.0013  | 0.038<br>0.0015  | 0.050<br>0.0020 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.10<br>0.0040  | 65 (48 — 86)<br>215 (160 — 280)       |
| S13 | E                                                                                 | 0.50<br>0.50 | 0.026<br>0.0010  | 0.032<br>0.0013  | 0.038<br>0.0015  | 0.050<br>0.0020 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.10<br>0.0040  | 50 (38 — 66)<br>165 (130 — 210)       |
| H5  | M/A/D                                                                             | 0.40<br>0.40 | 0.013<br>0.00050 | 0.016<br>0.00065 | 0.019<br>0.00075 | 0.026<br>0.0010 | 0.032<br>0.0013 | 0.038<br>0.0015 | 0.050<br>0.0020 | 65 (52 — 76)<br>215 (180 — 240)       |
| H8  | M/A/D                                                                             | 0.40<br>0.40 | 0.013<br>0.00050 | 0.016<br>0.00065 | 0.019<br>0.00075 | 0.026<br>0.0010 | 0.032<br>0.0013 | 0.038<br>0.0015 | 0.050<br>0.0020 | 65 (52 — 76)<br>215 (180 — 240)       |
| H21 | M/A/D                                                                             | 0.40<br>0.40 | 0.013<br>0.00050 | 0.016<br>0.00065 | 0.019<br>0.00075 | 0.026<br>0.0010 | 0.032<br>0.0013 | 0.038<br>0.0015 | 0.050<br>0.0020 | 125 (90 — 160)<br>410 (300 — 520)     |
| H31 | M/A/D                                                                             | 0.40<br>0.40 | 0.013<br>0.00050 | 0.016<br>0.00065 | 0.019<br>0.00075 | 0.026<br>0.0010 | 0.032<br>0.0013 | 0.038<br>0.0015 | 0.050<br>0.0020 | 48 (39 — 57)<br>155 (130 — 180)       |
| TS1 | A                                                                                 | 0.70<br>0.70 | 0.065<br>0.0026  | 0.080<br>0.0032  | 0.095<br>0.0038  | 0.12<br>0.0048  | 0.15<br>0.0060  | 0.16<br>0.0065  | 0.19<br>0.0075  | 240 (150 — 330)<br>790 (500 — 1000)   |
| TP1 | A                                                                                 | 0.70<br>0.70 | 0.065<br>0.0026  | 0.080<br>0.0032  | 0.095<br>0.0038  | 0.12<br>0.0048  | 0.15<br>0.0060  | 0.16<br>0.0065  | 0.19<br>0.0075  | 250 (150 — 340)<br>820 (500 — 1100)   |
| GR1 | A                                                                                 | 0.80<br>0.80 | 0.065<br>0.0026  | 0.080<br>0.0032  | 0.095<br>0.0038  | 0.12<br>0.0048  | 0.15<br>0.0060  | 0.16<br>0.0065  | 0.19<br>0.0075  | 485 (390 — 580)<br>1600 (1300 — 1900) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm/tooth (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

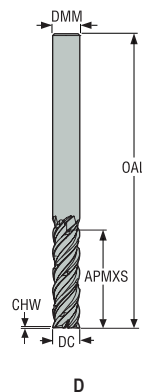
Graphite

X-Heads

Minimaster

JS554-3C

Advanced roughing – Universal – Square – 4 Flutes – Cylindrical – Chamfer

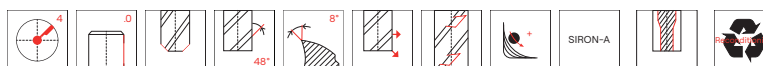


—Tolerances:

—DMM= h5

—DC= e7

—Regrind possible

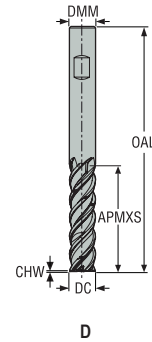


| Designation           | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank       | Stock standard |
|-----------------------|-------------|--------------|------------|----------------|------|------|-------|-------|-------|-------|-------------|----------------|
|                       |             |              |            |                | mm   | mm   | mm    | mm    | mm    |       |             |                |
| JS554060D3C.0Z4C-SIRA | 02810475    | 3            | D          | ■              | 6,0  | 6,0  | 23,0  | 65,0  | 0,075 | 4     | Cylindrical | ■              |
| JS554080D3C.0Z4C-SIRA | 02810477    | 3            | D          | ■              | 8,0  | 8,0  | 32,0  | 75,0  | 0,1   | 4     | Cylindrical | ■              |
| JS554100D3C.0Z4C-SIRA | 02810479    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 85,0  | 0,125 | 4     | Cylindrical | ■              |
| JS554120D3C.0Z4C-SIRA | 02810481    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 0,15  | 4     | Cylindrical | ■              |
| JS554160D3C.0Z4C-SIRA | 02810483    | 3            | D          | ■              | 16,0 | 16,0 | 55,0  | 115,0 | 0,2   | 4     | Cylindrical | ■              |
| JS554200D3C.0Z4C-SIRA | 02810485    | 3            | D          | ■              | 20,0 | 20,0 | 65,0  | 125,0 | 0,25  | 4     | Cylindrical | ■              |
| JS554250D3C.0Z4C-SIRA | 02810486    | 3            | D          | ■              | 25,0 | 25,0 | 85,0  | 150,0 | 0,3   | 4     | Cylindrical | ■              |

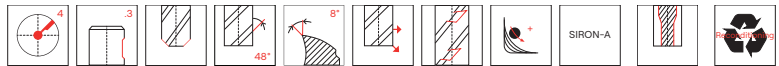
■ Stocked standard.

## JS554-3C

Advanced roughing – Universal – Square – 4 Flutes – Weldon – Chamfer



- Tolerances:
- DMM= h5
- DC= e7
- Regrind possible



| Designation           | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank  | Stock standard |
|-----------------------|-------------|--------------|------------|----------------|------|------|-------|-------|-------|-------|--------|----------------|
| JS554060D3C.3Z4C-SIRA | 02810474    | 3            | D          | ■              | 6,0  | 6,0  | 23,0  | 65,0  | 0,075 | 4     | Weldon | ■              |
| JS554080D3C.3Z4C-SIRA | 02810476    | 3            | D          | ■              | 8,0  | 8,0  | 32,0  | 75,0  | 0,1   | 4     | Weldon | ■              |
| JS554100D3C.3Z4C-SIRA | 02810478    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 85,0  | 0,125 | 4     | Weldon | ■              |
| JS554120D3C.3Z4C-SIRA | 02810480    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 0,15  | 4     | Weldon | ■              |
| JS554160D3C.3Z4C-SIRA | 02810482    | 3            | D          | ■              | 16,0 | 16,0 | 55,0  | 115,0 | 0,2   | 4     | Weldon | ■              |
| JS554200D3C.3Z4C-SIRA | 02810484    | 3            | D          | ■              | 20,0 | 20,0 | 65,0  | 125,0 | 0,25  | 4     | Weldon | ■              |
| JS554250D3C.3Z4C-SIRA | 02810487    | 3            | D          | ■              | 25,0 | 25,0 | 85,0  | 150,0 | 0,3   | 4     | Weldon | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JS554-3C Advanced roughing

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$           |                 |                 |                |                |                |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|----------------|------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                |            | 6               | 8               | 10              | 12             | 16             | 20             | 25             |                                       |
| P1  | M/A/D/E                                                                           | 0.100<br>0,100 | 3.6<br>3,6 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.11<br>0,0044  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.18<br>0,0070 | 0.20<br>0,0080 | 350 (320 — 380)<br>1150 (1100 — 1200) |
| P2  | M/A/D/E                                                                           | 0.100<br>0,100 | 3.6<br>3,6 | 0.065<br>0,0026 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.19<br>0,0075 | 0.22<br>0,0085 | 340 (310 — 370)<br>1125 (1100 — 1200) |
| P3  | M/A/D/E                                                                           | 0.100<br>0,100 | 3.6<br>3,6 | 0.060<br>0,0024 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.18<br>0,0070 | 0.20<br>0,0080 | 295 (270 — 320)<br>970 (890 — 1000)   |
| P4  | M/A/D/E                                                                           | 0.100<br>0,100 | 3.6<br>3,6 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 0.19<br>0,0075 | 260 (240 — 280)<br>850 (790 — 910)    |
| P5  | M/A/D/E                                                                           | 0.100<br>0,100 | 3.6<br>3,6 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 0.19<br>0,0075 | 250 (230 — 270)<br>820 (760 — 880)    |
| P6  | M/A/D/E                                                                           | 0.100<br>0,100 | 3.6<br>3,6 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 0.19<br>0,0075 | 280 (260 — 300)<br>920 (860 — 980)    |
| P7  | M/A/D/E                                                                           | 0.100<br>0,100 | 3.6<br>3,6 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 0.19<br>0,0075 | 265 (240 — 290)<br>870 (790 — 950)    |
| P8  | M/A/D/E                                                                           | 0.100<br>0,100 | 3.6<br>3,6 | 0.060<br>0,0024 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.18<br>0,0070 | 0.20<br>0,0080 | 250 (230 — 270)<br>820 (760 — 880)    |
| P11 | M/A/D/E                                                                           | 0.100<br>0,100 | 3.6<br>3,6 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055 | 0.19<br>0,0075 | 0.24<br>0,0095 | 0.28<br>0,011  | 245 (230 — 270)<br>800 (760 — 880)    |
| P12 | M/A/D/E                                                                           | 0.100<br>0,100 | 3.6<br>3,6 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 0.19<br>0,0075 | 150 (140 — 160)<br>490 (460 — 520)    |
| M1  | E                                                                                 | 0.100<br>0,100 | 3.6<br>3,6 | 0.065<br>0,0026 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.19<br>0,0075 | 0.22<br>0,0085 | 180 (160 — 210)<br>590 (530 — 680)    |
| M2  | E                                                                                 | 0.100<br>0,100 | 3.6<br>3,6 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 0.19<br>0,0075 | 150 (130 — 170)<br>490 (430 — 550)    |
| M3  | E                                                                                 | 0.100<br>0,100 | 3.6<br>3,6 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 0.19<br>0,0075 | 100 (90 — 100)<br>330 (300 — 320)     |
| M4  | E                                                                                 | 0.100<br>0,100 | 3.6<br>3,6 | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.17<br>0,0065 | 75 (70 — 85)<br>245 (230 — 270)       |
| M5  | E                                                                                 | 0.100<br>0,100 | 3.6<br>3,6 | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.17<br>0,0065 | 65 (59 — 71)<br>215 (200 — 230)       |
| K1  | E                                                                                 | 0.100<br>0,100 | 3.6<br>3,6 | 0.065<br>0,0026 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.19<br>0,0075 | 0.22<br>0,0085 | 340 (310 — 370)<br>1125 (1100 — 1200) |
| K2  | E                                                                                 | 0.100<br>0,100 | 3.6<br>3,6 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 0.19<br>0,0075 | 185 (160 — 210)<br>610 (530 — 680)    |
| K3  | E                                                                                 | 0.100<br>0,100 | 3.6<br>3,6 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 0.19<br>0,0075 | 255 (240 — 280)<br>840 (790 — 910)    |
| K4  | E                                                                                 | 0.100<br>0,100 | 3.6<br>3,6 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 0.19<br>0,0075 | 245 (220 — 260)<br>800 (730 — 850)    |
| K5  | E                                                                                 | 0.100<br>0,100 | 3.6<br>3,6 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044 | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.17<br>0,0065 | 150 (140 — 160)<br>490 (460 — 520)    |
| K6  | E                                                                                 | 0.100<br>0,100 | 3.6<br>3,6 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 0.19<br>0,0075 | 215 (200 — 230)<br>710 (660 — 750)    |
| K7  | E                                                                                 | 0.100<br>0,100 | 3.6<br>3,6 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044 | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.17<br>0,0065 | 190 (180 — 200)<br>620 (600 — 650)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values



## Cutting data – JS554-3C Advanced roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>   |                 |                 |                 |                 |                 |                 | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                    |                    | 6                | 8               | 10              | 12              | 16              | 20              | 25              |                                       |
| N1  | E                                                                                 | 0.100<br>0,100     | 3.6<br>3.6         | 0.060<br>0,0024  | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 0.19<br>0,0075  | 750 (650 — 840)<br>2450 (2200 — 2700) |
| N2  | E                                                                                 | 0.100<br>0,100     | 3.6<br>3.6         | 0.060<br>0,0024  | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 0.19<br>0,0075  | 480 (420 — 540)<br>1575 (1400 — 1700) |
| N3  | E                                                                                 | 0.100<br>0,100     | 3.6<br>3.6         | 0.060<br>0,0024  | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 0.19<br>0,0075  | 320 (280 — 360)<br>1050 (920 — 1100)  |
| N11 | E                                                                                 | 0.100<br>0,100     | 3.6<br>3.6         | 0.060<br>0,0024  | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 0.19<br>0,0075  | 375 (330 — 420)<br>1225 (1100 — 1300) |
| S1  | E                                                                                 | 0.0500<br>0,0500   | 3.6<br>3.6         | 0.048<br>0,0019  | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 50 (40 — 60)<br>165 (140 — 190)       |
| S2  | E                                                                                 | 0.0500<br>0,0500   | 3.6<br>3.6         | 0.048<br>0,0019  | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 40 (33 — 48)<br>130 (110 — 150)       |
| S3  | E                                                                                 | 0.0500<br>0,0500   | 3.6<br>3.6         | 0.048<br>0,0019  | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 25 (20 — 29)<br>80 (66 — 95)          |
| S11 | E                                                                                 | 0.100<br>0,100     | 3.6<br>3.6         | 0.048<br>0,0019  | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 195 (130 — 220)<br>640 (430 — 720)    |
| S12 | E                                                                                 | 0.100<br>0,100     | 3.6<br>3.6         | 0.048<br>0,0019  | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 150 (100 — 160)<br>490 (330 — 520)    |
| S13 | E                                                                                 | 0.100<br>0,100     | 3.6<br>3.6         | 0.042<br>0,0017  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 120 (80 — 130)<br>395 (270 — 420)     |
| H5  | M/A/D                                                                             | 0.0500<br>0,0500   | 3.6<br>3.6         | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 200 (190 — 220)<br>660 (630 — 720)    |
| H8  | M/A/D                                                                             | 0.0500<br>0,0500   | 3.6<br>3.6         | 0.022<br>0,00085 | 0.030<br>0,0012 | 0.038<br>0,0015 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.075<br>0,0030 | 210 (190 — 220)<br>690 (630 — 720)    |
| H11 | M/A/D                                                                             | 0.0500<br>0,0500   | 3.6<br>3.6         | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 255 (240 — 280)<br>840 (790 — 910)    |
| H12 | M/A/D                                                                             | 0.100<br>0,100     | 3.6<br>3.6         | 0.032<br>0,0013  | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.10<br>0,0040  | 205 (190 — 220)<br>670 (630 — 720)    |
| H21 | M/A/D                                                                             | 0.0500<br>0,0500   | 3.6<br>3.6         | 0.022<br>0,00085 | 0.030<br>0,0012 | 0.038<br>0,0015 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.075<br>0,0030 | 210 (190 — 220)<br>690 (630 — 720)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

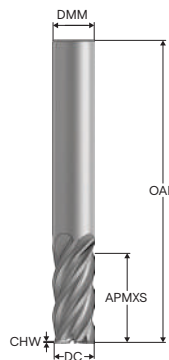
Graphite

X-Heads

Minimaster

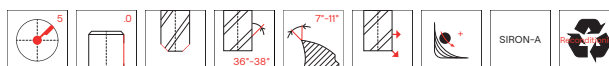
## ST5551

High performance – Universal – Square – 5 Flutes – Cylindrical – Chamfer



D

—Tolerances:  
—DMM=h5  
—DC=e7  
—Reground possible

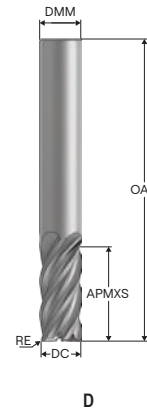


| Designation       | Grade | Item number | Length index | Tool shape | DC        | DMM       | APMXS      | OAL        | CHW         | PCEDC | Shank       | Stock standard |
|-------------------|-------|-------------|--------------|------------|-----------|-----------|------------|------------|-------------|-------|-------------|----------------|
| ST5551-060D2C.0Z5 | SIRA  | 10303332    | 2            | D          | mm<br>6,0 | mm<br>6,0 | mm<br>14,0 | mm<br>58,0 | mm<br>0,075 | 5     | Cylindrical | ■              |
| ST5551-080D2C.0Z5 | SIRA  | 10303333    | 2            | D          | 8,0       | 8,0       | 18,0       | 64,0       | 0,1         | 5     | Cylindrical | ■              |
| ST5551-100D2C.0Z5 | SIRA  | 10303334    | 2            | D          | 10,0      | 10,0      | 22,0       | 73,0       | 0,125       | 5     | Cylindrical | ■              |
| ST5551-120D2C.0Z5 | SIRA  | 10303335    | 2            | D          | 12,0      | 12,0      | 26,0       | 84,0       | 0,15        | 5     | Cylindrical | ■              |
| ST5551-160D2C.0Z5 | SIRA  | 10303336    | 2            | D          | 16,0      | 16,0      | 34,0       | 95,0       | 0,2         | 5     | Cylindrical | ■              |
| ST5551-200D2C.0Z5 | SIRA  | 10303337    | 2            | D          | 20,0      | 20,0      | 42,0       | 109,0      | 0,25        | 5     | Cylindrical | ■              |
| ST5551-250D2C.0Z5 | SIRA  | 10303338    | 2            | D          | 25,0      | 25,0      | 52,0       | 125,0      | 0,3         | 5     | Cylindrical | ■              |
| ST5551-060D3C.0Z5 | SIRA  | 10303339    | 3            | D          | 6,0       | 6,0       | 23,0       | 64,0       | 0,075       | 5     | Cylindrical | ■              |
| ST5551-080D3C.0Z5 | SIRA  | 10303340    | 3            | D          | 8,0       | 8,0       | 32,0       | 73,0       | 0,1         | 5     | Cylindrical | ■              |
| ST5551-100D3C.0Z5 | SIRA  | 10303341    | 3            | D          | 10,0      | 10,0      | 40,0       | 85,0       | 0,125       | 5     | Cylindrical | ■              |
| ST5551-120D3C.0Z5 | SIRA  | 10303342    | 3            | D          | 12,0      | 12,0      | 45,0       | 100,0      | 0,15        | 5     | Cylindrical | ■              |
| ST5551-160D3C.0Z5 | SIRA  | 10303343    | 3            | D          | 16,0      | 16,0      | 55,0       | 115,0      | 0,2         | 5     | Cylindrical | ■              |
| ST5551-200D3C.0Z5 | SIRA  | 10303344    | 3            | D          | 20,0      | 20,0      | 65,0       | 125,0      | 0,25        | 5     | Cylindrical | ■              |
| ST5551-250D3C.0Z5 | SIRA  | 10303345    | 3            | D          | 25,0      | 25,0      | 85,0       | 155,0      | 0,3         | 5     | Cylindrical | ■              |

■ Stocked standard.

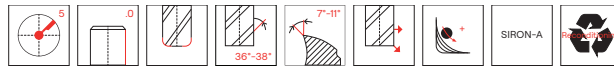
## ST5551

High performance – Universal – Square – 5 Flutes – Cylindrical – Corner radius



D

- Tolerances:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Regrind possible



| Designation          | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-------------|----------------|
|                      |       |             |              |            | mm   | mm   | mm    | mm    | mm  |       |             |                |
| ST5551-060D2R050.0Z5 | SIRA  | 10303346    | 2            | D          | 6,0  | 6,0  | 14,0  | 58,0  | 0,5 | 5     | Cylindrical | ■              |
| ST5551-080D2R050.0Z5 | SIRA  | 10303347    | 2            | D          | 8,0  | 8,0  | 18,0  | 64,0  | 0,5 | 5     | Cylindrical | ■              |
| ST5551-100D2R050.0Z5 | SIRA  | 10303348    | 2            | D          | 10,0 | 10,0 | 22,0  | 73,0  | 0,5 | 5     | Cylindrical | ■              |
| ST5551-120D2R050.0Z5 | SIRA  | 10303349    | 2            | D          | 12,0 | 12,0 | 26,0  | 84,0  | 0,5 | 5     | Cylindrical | ■              |
| ST5551-120D2R100.0Z5 | SIRA  | 10303350    | 2            | D          | 12,0 | 12,0 | 26,0  | 84,0  | 1,0 | 5     | Cylindrical | ■              |
| ST5551-160D2R050.0Z5 | SIRA  | 10303351    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 0,5 | 5     | Cylindrical | ■              |
| ST5551-160D2R100.0Z5 | SIRA  | 10303352    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 1,0 | 5     | Cylindrical | ■              |
| ST5551-200D2R050.0Z5 | SIRA  | 10303353    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 0,5 | 5     | Cylindrical | ■              |
| ST5551-200D2R100.0Z5 | SIRA  | 10303354    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 1,0 | 5     | Cylindrical | ■              |
| ST5551-250D2R050.0Z5 | SIRA  | 10303355    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 0,5 | 5     | Cylindrical | ■              |
| ST5551-250D2R100.0Z5 | SIRA  | 10303356    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 1,0 | 5     | Cylindrical | ■              |
| ST5551-060D3R050.0Z5 | SIRA  | 10303357    | 3            | D          | 6,0  | 6,0  | 23,0  | 64,0  | 0,5 | 5     | Cylindrical | ■              |
| ST5551-080D3R050.0Z5 | SIRA  | 10303358    | 3            | D          | 8,0  | 8,0  | 32,0  | 73,0  | 0,5 | 5     | Cylindrical | ■              |
| ST5551-100D3R050.0Z5 | SIRA  | 10303359    | 3            | D          | 10,0 | 10,0 | 40,0  | 85,0  | 0,5 | 5     | Cylindrical | ■              |
| ST5551-120D3R050.0Z5 | SIRA  | 10303360    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 0,5 | 5     | Cylindrical | ■              |
| ST5551-120D3R100.0Z5 | SIRA  | 10303361    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 1,0 | 5     | Cylindrical | ■              |
| ST5551-160D3R050.0Z5 | SIRA  | 10303362    | 3            | D          | 16,0 | 16,0 | 55,0  | 115,0 | 0,5 | 5     | Cylindrical | ■              |
| ST5551-160D3R100.0Z5 | SIRA  | 10303363    | 3            | D          | 16,0 | 16,0 | 55,0  | 115,0 | 1,0 | 5     | Cylindrical | ■              |
| ST5551-200D3R050.0Z5 | SIRA  | 10303364    | 3            | D          | 20,0 | 20,0 | 65,0  | 125,0 | 0,5 | 5     | Cylindrical | ■              |
| ST5551-200D3R100.0Z5 | SIRA  | 10303365    | 3            | D          | 20,0 | 20,0 | 65,0  | 125,0 | 1,0 | 5     | Cylindrical | ■              |
| ST5551-250D3R050.0Z5 | SIRA  | 10303366    | 3            | D          | 25,0 | 25,0 | 85,0  | 155,0 | 0,5 | 5     | Cylindrical | ■              |
| ST5551-250D3R100.0Z5 | SIRA  | 10303367    | 3            | D          | 25,0 | 25,0 | 85,0  | 155,0 | 1,0 | 5     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

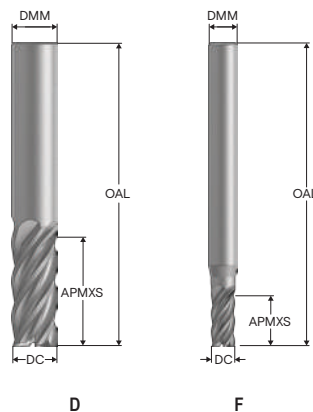
Graphite

X-Heads

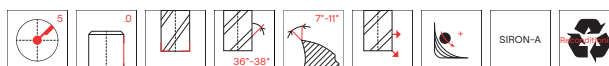
Minimaster

## ST5551

High performance – Universal – Square – 5 Flutes – Cylindrical – Sharp – Inch



—Tolerances:  
—DMM= -.0001"/-.0004"  
—DC= +.000" / -.002"  
—Reground possible if DC is  $\geq \varnothing.250$

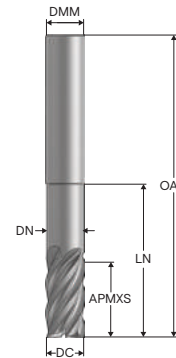


| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
| ST5551-.250D1S.0Z5 | SIRA  | 10303040    | 1            | D          | 0.250 | 0.250 | 0.375 | 2.000 | 5     | Cylindrical | ■              |
| ST5551-.375D1S.0Z5 | SIRA  | 10303041    | 1            | D          | 0.375 | 0.375 | 0.500 | 2.500 | 5     | Cylindrical | ■              |
| ST5551-.500D1S.0Z5 | SIRA  | 10303042    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 5     | Cylindrical | ■              |
| ST5551-.625D1S.0Z5 | SIRA  | 10303043    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 5     | Cylindrical | ■              |
| ST5551-.750D1S.0Z5 | SIRA  | 10303044    | 1            | D          | 0.750 | 0.750 | 0.875 | 3.000 | 5     | Cylindrical | ■              |
| ST5551-.125D2S.0Z5 | SIRA  | 10303045    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 5     | Cylindrical | ■              |
| ST5551-.156F2S.0Z5 | SIRA  | 10303046    | 2            | F          | 0.156 | 0.188 | 0.313 | 2.000 | 5     | Cylindrical | ■              |
| ST5551-.188D2S.0Z5 | SIRA  | 10303047    | 2            | D          | 0.188 | 0.188 | 0.313 | 2.000 | 5     | Cylindrical | ■              |
| ST5551-.219F2S.0Z5 | SIRA  | 10303048    | 2            | F          | 0.219 | 0.250 | 0.375 | 2.000 | 5     | Cylindrical | ■              |
| ST5551-.313D2S.0Z5 | SIRA  | 10303049    | 2            | D          | 0.313 | 0.313 | 0.750 | 2.500 | 5     | Cylindrical | ■              |
| ST5551-.375D2S.0Z5 | SIRA  | 10303050    | 2            | D          | 0.375 | 0.375 | 0.875 | 2.500 | 5     | Cylindrical | ■              |
| ST5551-.500D2S.0Z5 | SIRA  | 10303051    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 5     | Cylindrical | ■              |
| ST5551-.625D2S.0Z5 | SIRA  | 10303052    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 5     | Cylindrical | ■              |
| ST5551-.750D2S.0Z5 | SIRA  | 10303053    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 5     | Cylindrical | ■              |
| ST5551-.188D3S.0Z5 | SIRA  | 10303054    | 3            | D          | 0.188 | 0.188 | 0.563 | 2.000 | 5     | Cylindrical | ■              |
| ST5551-.219F3S.0Z5 | SIRA  | 10303055    | 3            | F          | 0.219 | 0.250 | 0.750 | 2.500 | 5     | Cylindrical | ■              |
| ST5551-.250D3S.0Z5 | SIRA  | 10303056    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 5     | Cylindrical | ■              |
| ST5551-.500D3S.0Z5 | SIRA  | 10303057    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 5     | Cylindrical | ■              |
| ST5551-.125D4S.0Z5 | SIRA  | 10303059    | 4            | D          | 0.125 | 0.125 | 0.500 | 1.500 | 5     | Cylindrical | ■              |
| ST5551-.156F4S.0Z5 | SIRA  | 10303060    | 4            | F          | 0.156 | 0.188 | 0.563 | 2.000 | 5     | Cylindrical | ■              |
| ST5551-.625D4S.0Z5 | SIRA  | 10303065    | 4            | D          | 0.625 | 0.625 | 1.625 | 3.500 | 5     | Cylindrical | ■              |
| ST5551-.625D5S.0Z5 | SIRA  | 10303070    | 5            | D          | 0.625 | 0.625 | 2.125 | 4.000 | 5     | Cylindrical | ■              |

■ Stocked standard.

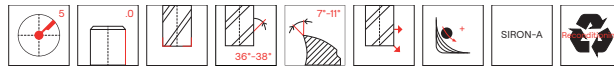
## ST5551

High performance – Universal – Square – 5 Flutes – Cylindrical – Sharp – Inch



E

- Tolerances:
- DMM=  $\pm 0.001'' / \pm 0.004''$
- DC=  $\pm 0.000'' / \pm 0.002''$
- Regrind possible



| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | LN    | DN    | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| ST5551-.750E3S.0Z5 | SIRA  | 10303058    | 3            | E          | inch  | inch  | inch  | inch  | inch  | inch  | 5     | Cylindrical | ■              |
| ST5551-.250E4S.0Z5 | SIRA  | 10303061    | 4            | E          | 0.250 | 0.250 | 0.500 | 3.000 | 1.000 | 0.240 | 5     | Cylindrical | ■              |
| ST5551-.375E4S.0Z5 | SIRA  | 10303062    | 4            | E          | 0.375 | 0.375 | 0.750 | 3.000 | 1.500 | 0.360 | 5     | Cylindrical | ■              |
| ST5551-.500E4S.0Z5 | SIRA  | 10303063    | 4            | E          | 0.500 | 0.500 | 1.000 | 4.000 | 2.000 | 0.480 | 5     | Cylindrical | ■              |
| ST5551-.625E4S.0Z5 | SIRA  | 10303064    | 4            | E          | 0.625 | 0.625 | 1.250 | 5.000 | 2.500 | 0.600 | 5     | Cylindrical | ■              |
| ST5551-.750E4S.0Z5 | SIRA  | 10303066    | 4            | E          | 0.750 | 0.750 | 1.500 | 5.000 | 3.000 | 0.720 | 5     | Cylindrical | ■              |
| ST5551-.250E5S.0Z5 | SIRA  | 10303067    | 5            | E          | 0.250 | 0.250 | 0.500 | 4.000 | 1.250 | 0.240 | 5     | Cylindrical | ■              |
| ST5551-.375E5S.0Z5 | SIRA  | 10303068    | 5            | E          | 0.375 | 0.375 | 0.500 | 4.000 | 2.125 | 0.360 | 5     | Cylindrical | ■              |
| ST5551-.625E5S.0Z5 | SIRA  | 10303069    | 5            | E          | 0.625 | 0.625 | 0.750 | 6.000 | 3.375 | 0.600 | 5     | Cylindrical | ■              |
| ST5551-.750E5S.0Z5 | SIRA  | 10303071    | 5            | E          | 0.750 | 0.750 | 1.125 | 6.000 | 4.125 | 0.720 | 5     | Cylindrical | ■              |
| ST5551-.500E6S.0Z5 | SIRA  | 10303072    | 6            | E          | 0.500 | 0.500 | 0.625 | 5.000 | 3.125 | 0.480 | 5     | Cylindrical | ■              |
| ST5551-.250E8S.0Z5 | SIRA  | 10303073    | 8            | E          | 0.250 | 0.250 | 0.500 | 4.000 | 2.125 | 0.240 | 5     | Cylindrical | ■              |
| ST5551-.375E8S.0Z5 | SIRA  | 10303074    | 8            | E          | 0.375 | 0.375 | 0.500 | 6.000 | 3.125 | 0.360 | 5     | Cylindrical | ■              |
| ST5551-.500E8S.0Z5 | SIRA  | 10303075    | 8            | E          | 0.500 | 0.500 | 0.625 | 6.000 | 4.125 | 0.480 | 5     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and CFRP

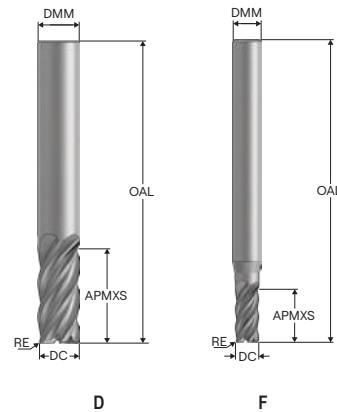
Graphite

X-Heads

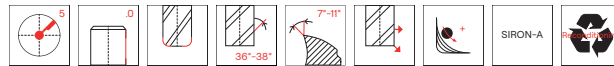
Minimaster

## ST5551

High performance – Universal – Square – 5 Flutes – Cylindrical – Corner radius – Inch



—Tolerances:  
—DMM= -.0001"/-.0004"  
—DC= +.000" / -.002"  
—RE= ±.0008"  
—Regrind possible if DC is ≥ Ø.250

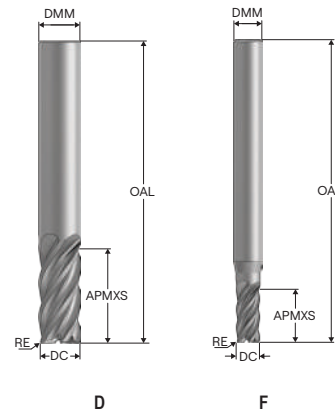


| Designation          | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| ST5551-250D1R015.0Z5 | SIRA  | 10303076    | 1            | D          | 0.250 | 0.250 | 0.375 | 2.000 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-250D1R030.0Z5 | SIRA  | 10303077    | 1            | D          | 0.250 | 0.250 | 0.375 | 2.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-250D1R045.0Z5 | SIRA  | 10303078    | 1            | D          | 0.250 | 0.250 | 0.375 | 2.000 | 0.045 | 5     | Cylindrical | ■              |
| ST5551-375D1R015.0Z5 | SIRA  | 10303079    | 1            | D          | 0.375 | 0.375 | 0.500 | 2.500 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-375D1R030.0Z5 | SIRA  | 10303080    | 1            | D          | 0.375 | 0.375 | 0.500 | 2.500 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-375D1R045.0Z5 | SIRA  | 10303081    | 1            | D          | 0.375 | 0.375 | 0.500 | 2.500 | 0.045 | 5     | Cylindrical | ■              |
| ST5551-500D1R015.0Z5 | SIRA  | 10303082    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-500D1R030.0Z5 | SIRA  | 10303083    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-500D1R045.0Z5 | SIRA  | 10303084    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 0.045 | 5     | Cylindrical | ■              |
| ST5551-500D1R060.0Z5 | SIRA  | 10303085    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-500D1R120.0Z5 | SIRA  | 10303086    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 0.120 | 5     | Cylindrical | ■              |
| ST5551-625D1R015.0Z5 | SIRA  | 10303087    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-625D1R030.0Z5 | SIRA  | 10303088    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-625D1R060.0Z5 | SIRA  | 10303089    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-625D1R120.0Z5 | SIRA  | 10303090    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 0.120 | 5     | Cylindrical | ■              |
| ST5551-750D1R030.0Z5 | SIRA  | 10303091    | 1            | D          | 0.750 | 0.750 | 0.875 | 3.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-750D1R060.0Z5 | SIRA  | 10303092    | 1            | D          | 0.750 | 0.750 | 0.875 | 3.000 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-750D1R120.0Z5 | SIRA  | 10303093    | 1            | D          | 0.750 | 0.750 | 0.875 | 3.000 | 0.120 | 5     | Cylindrical | ■              |
| ST5551-125D2R010.0Z5 | SIRA  | 10303094    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 0.010 | 5     | Cylindrical | ■              |
| ST5551-156F2R010.0Z5 | SIRA  | 10303095    | 2            | F          | 0.156 | 0.188 | 0.313 | 2.000 | 0.010 | 5     | Cylindrical | ■              |
| ST5551-188D2R010.0Z5 | SIRA  | 10303096    | 2            | D          | 0.188 | 0.188 | 0.313 | 2.000 | 0.010 | 5     | Cylindrical | ■              |
| ST5551-219F2R010.0Z5 | SIRA  | 10303097    | 2            | F          | 0.219 | 0.250 | 0.375 | 2.000 | 0.010 | 5     | Cylindrical | ■              |
| ST5551-313D2R015.0Z5 | SIRA  | 10303098    | 2            | D          | 0.313 | 0.313 | 0.750 | 2.500 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-375D2R015.0Z5 | SIRA  | 10303099    | 2            | D          | 0.375 | 0.375 | 0.875 | 2.500 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-375D2R030.0Z5 | SIRA  | 10303100    | 2            | D          | 0.375 | 0.375 | 0.875 | 2.500 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-375D2R045.0Z5 | SIRA  | 10303101    | 2            | D          | 0.375 | 0.375 | 0.875 | 2.500 | 0.045 | 5     | Cylindrical | ■              |
| ST5551-375D2R060.0Z5 | SIRA  | 10303102    | 2            | D          | 0.375 | 0.375 | 0.875 | 2.500 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-500D2R015.0Z5 | SIRA  | 10303103    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-500D2R030.0Z5 | SIRA  | 10303104    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-500D2R060.0Z5 | SIRA  | 10303105    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-625D2R015.0Z5 | SIRA  | 10303106    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-625D2R030.0Z5 | SIRA  | 10303107    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-625D2R045.0Z5 | SIRA  | 10303108    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.045 | 5     | Cylindrical | ■              |
| ST5551-625D2R060.0Z5 | SIRA  | 10303109    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-625D2R090.0Z5 | SIRA  | 10303110    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.090 | 5     | Cylindrical | ■              |
| ST5551-625D2R125.0Z5 | SIRA  | 10303111    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.125 | 5     | Cylindrical | ■              |

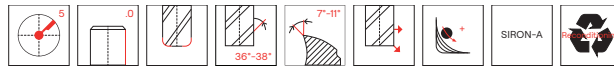
■ Stocked standard.

## ST5551

High performance – Universal – Square – 5 Flutes – Cylindrical – Corner radius – Inch



- Tolerances:
- DMM =  $\pm 0.001$ "/ $\pm 0.004$ "
- DC =  $\pm 0.000$ " /  $\pm 0.002$ "
- RE =  $\pm 0.008$ "
- Regrind possible if DC is  $\geq \varnothing 0.250$



| Designation           | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|-----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| ST5551-.750D2R030.0Z5 | SIRA  | 10303112    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-.750D2R060.0Z5 | SIRA  | 10303113    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-.750D2R090.0Z5 | SIRA  | 10303114    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.090 | 5     | Cylindrical | ■              |
| ST5551-.750D2R125.0Z5 | SIRA  | 10303115    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.125 | 5     | Cylindrical | ■              |
| ST5551-1.00D2R015.0Z5 | SIRA  | 10303116    | 2            | D          | 1.000 | 1.000 | 1.750 | 4.000 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-1.00D2R030.0Z5 | SIRA  | 10303117    | 2            | D          | 1.000 | 1.000 | 1.750 | 4.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-1.00D2R060.0Z5 | SIRA  | 10303118    | 2            | D          | 1.000 | 1.000 | 1.750 | 4.000 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-1.88D3R010.0Z5 | SIRA  | 10303119    | 3            | D          | 0.188 | 0.188 | 0.563 | 2.000 | 0.010 | 5     | Cylindrical | ■              |
| ST5551-2.19F3R010.0Z5 | SIRA  | 10303120    | 3            | F          | 0.219 | 0.250 | 0.750 | 2.500 | 0.010 | 5     | Cylindrical | ■              |
| ST5551-2.50D3R015.0Z5 | SIRA  | 10303121    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-2.50D3R030.0Z5 | SIRA  | 10303122    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-2.50D3R045.0Z5 | SIRA  | 10303123    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.045 | 5     | Cylindrical | ■              |
| ST5551-3.75D3R030.0Z5 | SIRA  | 10303124    | 3            | D          | 0.375 | 0.375 | 1.250 | 3.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-5.00D3R015.0Z5 | SIRA  | 10303125    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-5.00D3R030.0Z5 | SIRA  | 10303126    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-5.00D3R045.0Z5 | SIRA  | 10303127    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.045 | 5     | Cylindrical | ■              |
| ST5551-5.00D3R060.0Z5 | SIRA  | 10303128    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-5.00D3R090.0Z5 | SIRA  | 10303129    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.090 | 5     | Cylindrical | ■              |
| ST5551-5.00D3R125.0Z5 | SIRA  | 10303130    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.125 | 5     | Cylindrical | ■              |
| ST5551-7.50D3R030.0Z5 | SIRA  | 10303134    | 3            | D          | 0.750 | 0.750 | 1.625 | 4.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-1.25D4R010.0Z5 | SIRA  | 10303138    | 4            | D          | 0.125 | 0.125 | 0.500 | 1.500 | 0.010 | 5     | Cylindrical | ■              |
| ST5551-1.56F4R010.0Z5 | SIRA  | 10303139    | 4            | F          | 0.156 | 0.188 | 0.563 | 2.000 | 0.010 | 5     | Cylindrical | ■              |
| ST5551-2.50D4R015.0Z5 | SIRA  | 10303142    | 4            | D          | 0.250 | 0.250 | 1.000 | 3.000 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-3.75D4R030.0Z5 | SIRA  | 10303147    | 4            | D          | 0.375 | 0.375 | 1.500 | 4.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-5.00D4R030.0Z5 | SIRA  | 10303152    | 4            | D          | 0.500 | 0.500 | 1.625 | 4.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-7.50D4R030.0Z5 | SIRA  | 10303158    | 4            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-5.00D5R030.0Z5 | SIRA  | 10303165    | 5            | D          | 0.500 | 0.500 | 2.000 | 4.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-7.50D5R030.0Z5 | SIRA  | 10303171    | 5            | D          | 0.750 | 0.750 | 2.750 | 5.000 | 0.030 | 5     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

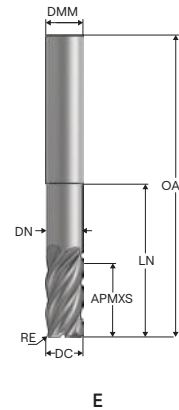
Graphite

X-Heads

Minimaster

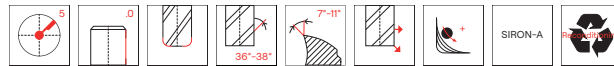
## ST5551

High performance – Universal – Square – 5 Flutes – Cylindrical – Corner radius – Inch



E

—Tolerances:  
—DMM=  $\pm 0.0001$ " /  $\pm 0.0004$ "  
—DC=  $\pm 0.000$ " /  $\pm 0.002$ "  
—RE=  $\pm 0.0008$ "  
—Reground possible



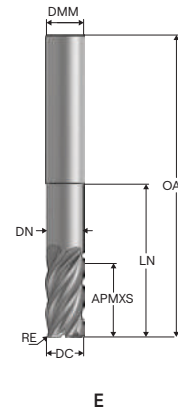
| Designation          | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | LN    | DN    | RE    | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| ST5551-250E4R015.0Z5 | SIRA  | 10303140    | 4            | E          | inch  | inch  | inch  | inch  | inch  | inch  | inch  | 5     | Cylindrical | ■              |
| ST5551-250E4R030.0Z5 | SIRA  | 10303141    | 4            | E          | 0.250 | 0.250 | 0.500 | 3.000 | 1.000 | 0.240 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-375E4R015.0Z5 | SIRA  | 10303143    | 4            | E          | 0.375 | 0.375 | 0.750 | 3.000 | 1.500 | 0.360 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-375E4R030.0Z5 | SIRA  | 10303144    | 4            | E          | 0.375 | 0.375 | 0.750 | 3.000 | 1.500 | 0.360 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-375E4R045.0Z5 | SIRA  | 10303145    | 4            | E          | 0.375 | 0.375 | 0.750 | 3.000 | 1.500 | 0.360 | 0.045 | 5     | Cylindrical | ■              |
| ST5551-375E4R060.0Z5 | SIRA  | 10303146    | 4            | E          | 0.375 | 0.375 | 0.750 | 3.000 | 1.500 | 0.360 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-500E4R015.0Z5 | SIRA  | 10303148    | 4            | E          | 0.500 | 0.500 | 1.000 | 4.000 | 2.000 | 0.480 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-500E4R030.0Z5 | SIRA  | 10303149    | 4            | E          | 0.500 | 0.500 | 1.000 | 4.000 | 2.000 | 0.480 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-500E4R060.0Z5 | SIRA  | 10303150    | 4            | E          | 0.500 | 0.500 | 1.000 | 4.000 | 2.000 | 0.480 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-500E4R120.0Z5 | SIRA  | 10303151    | 4            | E          | 0.500 | 0.500 | 1.000 | 4.000 | 2.000 | 0.480 | 0.120 | 5     | Cylindrical | ■              |
| ST5551-625E4R030.0Z5 | SIRA  | 10303153    | 4            | E          | 0.625 | 0.625 | 1.250 | 5.000 | 2.500 | 0.600 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-625E4R060.0Z5 | SIRA  | 10303154    | 4            | E          | 0.625 | 0.625 | 1.250 | 5.000 | 2.500 | 0.600 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-250E5R015.0Z5 | SIRA  | 10303159    | 5            | E          | 0.250 | 0.250 | 0.500 | 4.000 | 1.250 | 0.240 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-250E5R030.0Z5 | SIRA  | 10303160    | 5            | E          | 0.250 | 0.250 | 0.500 | 4.000 | 1.250 | 0.240 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-375E5R015.0Z5 | SIRA  | 10303161    | 5            | E          | 0.375 | 0.375 | 0.500 | 4.000 | 2.125 | 0.360 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-375E5R030.0Z5 | SIRA  | 10303162    | 5            | E          | 0.375 | 0.375 | 0.500 | 4.000 | 2.125 | 0.360 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-375E5R045.0Z5 | SIRA  | 10303163    | 5            | E          | 0.375 | 0.375 | 0.500 | 4.000 | 2.125 | 0.360 | 0.045 | 5     | Cylindrical | ■              |
| ST5551-375E5R060.0Z5 | SIRA  | 10303164    | 5            | E          | 0.375 | 0.375 | 0.500 | 4.000 | 2.125 | 0.360 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-625E5R030.0Z5 | SIRA  | 10303166    | 5            | E          | 0.625 | 0.625 | 0.750 | 6.000 | 3.375 | 0.600 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-625E5R060.0Z5 | SIRA  | 10303167    | 5            | E          | 0.625 | 0.625 | 0.750 | 6.000 | 3.375 | 0.600 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-500E6R015.0Z5 | SIRA  | 10303172    | 6            | E          | 0.500 | 0.500 | 0.625 | 5.000 | 3.125 | 0.480 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-500E6R030.0Z5 | SIRA  | 10303173    | 6            | E          | 0.500 | 0.500 | 0.625 | 5.000 | 3.125 | 0.480 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-500E6R060.0Z5 | SIRA  | 10303174    | 6            | E          | 0.500 | 0.500 | 0.625 | 5.000 | 3.125 | 0.480 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-500E6R120.0Z5 | SIRA  | 10303175    | 6            | E          | 0.500 | 0.500 | 0.625 | 5.000 | 3.125 | 0.480 | 0.120 | 5     | Cylindrical | ■              |
| ST5551-250E8R015.0Z5 | SIRA  | 10303176    | 8            | E          | 0.250 | 0.250 | 0.500 | 4.000 | 2.125 | 0.240 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-250E8R030.0Z5 | SIRA  | 10303177    | 8            | E          | 0.250 | 0.250 | 0.500 | 4.000 | 2.125 | 0.240 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-375E8R015.0Z5 | SIRA  | 10303178    | 8            | E          | 0.375 | 0.375 | 0.500 | 6.000 | 3.125 | 0.360 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-375E8R030.0Z5 | SIRA  | 10303179    | 8            | E          | 0.375 | 0.375 | 0.500 | 6.000 | 3.125 | 0.360 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-375E8R045.0Z5 | SIRA  | 10303180    | 8            | E          | 0.375 | 0.375 | 0.500 | 6.000 | 3.125 | 0.360 | 0.045 | 5     | Cylindrical | ■              |
| ST5551-375E8R060.0Z5 | SIRA  | 10303181    | 8            | E          | 0.375 | 0.375 | 0.500 | 6.000 | 3.125 | 0.360 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-500E8R015.0Z5 | SIRA  | 10303182    | 8            | E          | 0.500 | 0.500 | 0.625 | 6.000 | 4.125 | 0.480 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-500E8R030.0Z5 | SIRA  | 10303183    | 8            | E          | 0.500 | 0.500 | 0.625 | 6.000 | 4.125 | 0.480 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-500E8R060.0Z5 | SIRA  | 10303184    | 8            | E          | 0.500 | 0.500 | 0.625 | 6.000 | 4.125 | 0.480 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-500E8R120.0Z5 | SIRA  | 10303185    | 8            | E          | 0.500 | 0.500 | 0.625 | 6.000 | 4.125 | 0.480 | 0.120 | 5     | Cylindrical | ■              |

■ Stocked standard.



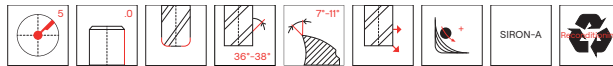
## ST5551

High performance – Universal – Square – 5 Flutes – Cylindrical – Corner radius – Inch



E

- Tolerances:
- DMM =  $\pm 0.001'' / -0.004''$
- DC =  $+0.000'' / -0.002''$
- RE =  $\pm 0.0008''$
- Regrind possible



| Designation           | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | LN    | DN    | RE    | PCEDC | Shank       | Stock standard |
|-----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| ST5551-.750E3R030.0Z5 | SIRA  | 10303131    | 3            | E          | inch  | inch  | inch  | inch  | inch  | inch  | inch  |       | Cylindrical | ■              |
| ST5551-.750E3R060.0Z5 | SIRA  | 10303132    | 3            | E          | 0.750 | 0.750 | 1.125 | 5.000 | 2.500 | 0.720 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-.750E3R120.0Z5 | SIRA  | 10303133    | 3            | E          | 0.750 | 0.750 | 1.125 | 5.000 | 2.500 | 0.720 | 0.120 | 5     | Cylindrical | ■              |
| ST5551-1.00E3R030.0Z5 | SIRA  | 10303135    | 3            | E          | 1.000 | 1.000 | 1.250 | 6.000 | 3.500 | 0.960 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-1.00E3R060.0Z5 | SIRA  | 10303136    | 3            | E          | 1.000 | 1.000 | 1.250 | 6.000 | 3.500 | 0.960 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-1.00E3R120.0Z5 | SIRA  | 10303137    | 3            | E          | 1.000 | 1.000 | 1.250 | 6.000 | 3.500 | 0.960 | 0.120 | 5     | Cylindrical | ■              |
| ST5551-.750E4R030.0Z5 | SIRA  | 10303155    | 4            | E          | 0.750 | 0.750 | 1.500 | 5.000 | 3.000 | 0.720 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-.750E4R060.0Z5 | SIRA  | 10303156    | 4            | E          | 0.750 | 0.750 | 1.500 | 5.000 | 3.000 | 0.720 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-.750E4R120.0Z5 | SIRA  | 10303157    | 4            | E          | 0.750 | 0.750 | 1.500 | 5.000 | 3.000 | 0.720 | 0.120 | 5     | Cylindrical | ■              |
| ST5551-.750E5R030.0Z5 | SIRA  | 10303168    | 5            | E          | 0.750 | 0.750 | 1.125 | 6.000 | 4.125 | 0.720 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-.750E5R060.0Z5 | SIRA  | 10303169    | 5            | E          | 0.750 | 0.750 | 1.125 | 6.000 | 4.125 | 0.720 | 0.060 | 5     | Cylindrical | ■              |
| ST5551-.750E5R120.0Z5 | SIRA  | 10303170    | 5            | E          | 0.750 | 0.750 | 1.132 | 6.000 | 4.125 | 0.720 | 0.120 | 5     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

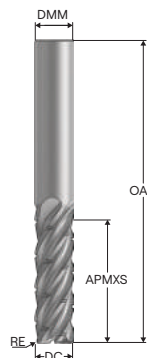
Graphite

X-Heads

Minimaster

## ST5551

High performance – Universal – Square – 5 Flutes – Cylindrical – Corner radius – Inch



D

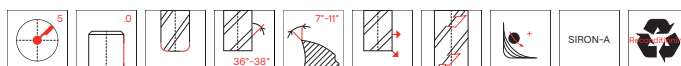
—Tolerances:

—DMM= -.0001"/-.0004"

—DC= +.000"/-.002"

—RE= ±.0008"

—Regrind possible

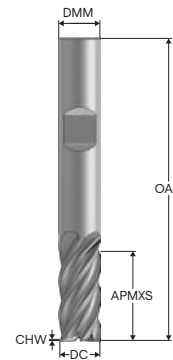


| Designation            | Grade | Item number | Length index | Tool shape | Chip splitters | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|------------------------|-------|-------------|--------------|------------|----------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| ST5551-.250D3R015.0Z5C | SIRA  | 10303186    | 3            | D          | ■              | 0.250 | 0.250 | 0.750 | 2.500 | 0.015 | 5     | Cylindrical | ■              |
| ST5551-.375D3R030.0Z5C | SIRA  | 10303187    | 3            | D          | ■              | 0.375 | 0.375 | 1.250 | 3.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-.500D3R030.0Z5C | SIRA  | 10303188    | 3            | D          | ■              | 0.500 | 0.500 | 1.250 | 3.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-.625D3R030.0Z5C | SIRA  | 10303189    | 3            | D          | ■              | 0.625 | 0.625 | 1.375 | 3.500 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-.750D3R030.0Z5C | SIRA  | 10303190    | 3            | D          | ■              | 0.750 | 0.750 | 1.625 | 4.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-.500D4R030.0Z5C | SIRA  | 10303191    | 4            | D          | ■              | 0.500 | 0.500 | 1.625 | 4.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-.750D4R030.0Z5C | SIRA  | 10303192    | 4            | D          | ■              | 0.750 | 0.750 | 2.250 | 5.000 | 0.030 | 5     | Cylindrical | ■              |
| ST5551-.625D5R030.0Z5C | SIRA  | 10303193    | 5            | D          | ■              | 0.625 | 0.625 | 2.125 | 4.000 | 0.030 | 5     | Cylindrical | ■              |

■ Stocked standard.

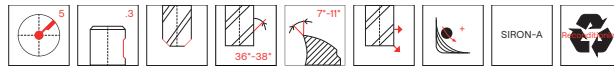
## ST5551

High performance – Universal – Square – 5 Flutes – Weldon – Chamfer



D

- Tolerances:
- DMM=h5
- DC=e7
- Regrind possible



| Designation       | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank  | Stock standard           |
|-------------------|-------|-------------|--------------|------------|------|------|-------|-------|-------|-------|--------|--------------------------|
| ST5551-060D2C.3Z5 | SIRA  | 10303368    | 2            | D          | 6,0  | 6,0  | 14,0  | 58,0  | 0,075 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-080D2C.3Z5 | SIRA  | 10303369    | 2            | D          | 8,0  | 8,0  | 18,0  | 64,0  | 0,1   | 5     | Weldon | <input type="checkbox"/> |
| ST5551-100D2C.3Z5 | SIRA  | 10303370    | 2            | D          | 10,0 | 10,0 | 22,0  | 73,0  | 0,125 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-120D2C.3Z5 | SIRA  | 10303371    | 2            | D          | 12,0 | 12,0 | 26,0  | 84,0  | 0,15  | 5     | Weldon | <input type="checkbox"/> |
| ST5551-160D2C.3Z5 | SIRA  | 10303372    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 0,2   | 5     | Weldon | <input type="checkbox"/> |
| ST5551-200D2C.3Z5 | SIRA  | 10303373    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 0,25  | 5     | Weldon | <input type="checkbox"/> |
| ST5551-250D2C.3Z5 | SIRA  | 10303374    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 0,3   | 5     | Weldon | <input type="checkbox"/> |
| ST5551-060D3C.3Z5 | SIRA  | 10303375    | 3            | D          | 6,0  | 6,0  | 23,0  | 64,0  | 0,075 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-080D3C.3Z5 | SIRA  | 10303376    | 3            | D          | 8,0  | 8,0  | 32,0  | 73,0  | 0,1   | 5     | Weldon | <input type="checkbox"/> |
| ST5551-100D3C.3Z5 | SIRA  | 10303377    | 3            | D          | 10,0 | 10,0 | 40,0  | 85,0  | 0,125 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-120D3C.3Z5 | SIRA  | 10303378    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 0,15  | 5     | Weldon | <input type="checkbox"/> |
| ST5551-160D3C.3Z5 | SIRA  | 10303379    | 3            | D          | 16,0 | 16,0 | 55,0  | 115,0 | 0,2   | 5     | Weldon | <input type="checkbox"/> |
| ST5551-200D3C.3Z5 | SIRA  | 10303380    | 3            | D          | 20,0 | 20,0 | 65,0  | 125,0 | 0,25  | 5     | Weldon | <input type="checkbox"/> |
| ST5551-250D3C.3Z5 | SIRA  | 10303381    | 3            | D          | 25,0 | 25,0 | 85,0  | 155,0 | 0,3   | 5     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

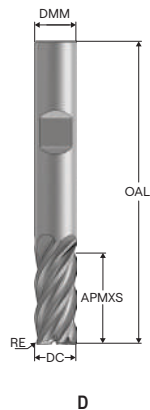
Graphite

X-Heads

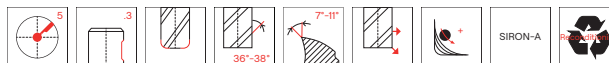
Minimaster

## ST5551

High performance – Universal – Square – 5 Flutes – Weldon – Corner radius



—Tolerances:  
—DMM=h5  
—DC=e7  
—RE= ±0,02 mm  
—Regind possible

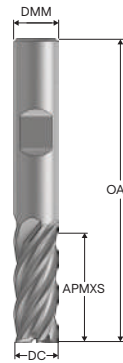


| Designation          | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank  | Stock standard           |
|----------------------|-------|-------------|--------------|------------|------|------|-------|-------|-----|-------|--------|--------------------------|
| ST5551-060D2R050.3Z5 | SIRA  | 10303382    | 2            | D          | 6,0  | 6,0  | 14,0  | 58,0  | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-080D2R050.3Z5 | SIRA  | 10303383    | 2            | D          | 8,0  | 8,0  | 18,0  | 64,0  | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-100D2R050.3Z5 | SIRA  | 10303384    | 2            | D          | 10,0 | 10,0 | 22,0  | 73,0  | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-120D2R050.3Z5 | SIRA  | 10303385    | 2            | D          | 12,0 | 12,0 | 26,0  | 84,0  | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-120D2R100.3Z5 | SIRA  | 10303386    | 2            | D          | 12,0 | 12,0 | 26,0  | 84,0  | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-160D2R050.3Z5 | SIRA  | 10303387    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-160D2R100.3Z5 | SIRA  | 10303388    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-200D2R050.3Z5 | SIRA  | 10303389    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-200D2R100.3Z5 | SIRA  | 10303390    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-250D2R050.3Z5 | SIRA  | 10303391    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-250D2R100.3Z5 | SIRA  | 10303392    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-060D3R050.3Z5 | SIRA  | 10303393    | 3            | D          | 6,0  | 6,0  | 23,0  | 64,0  | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-080D3R050.3Z5 | SIRA  | 10303394    | 3            | D          | 8,0  | 8,0  | 32,0  | 73,0  | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-100D3R050.3Z5 | SIRA  | 10303395    | 3            | D          | 10,0 | 10,0 | 40,0  | 85,0  | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-120D3R050.3Z5 | SIRA  | 10303396    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-120D3R100.3Z5 | SIRA  | 10303397    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-160D3R050.3Z5 | SIRA  | 10303398    | 3            | D          | 16,0 | 16,0 | 55,0  | 115,0 | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-160D3R100.3Z5 | SIRA  | 10303399    | 3            | D          | 16,0 | 16,0 | 55,0  | 115,0 | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-200D3R050.3Z5 | SIRA  | 10303400    | 3            | D          | 20,0 | 20,0 | 65,0  | 125,0 | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-200D3R100.3Z5 | SIRA  | 10303401    | 3            | D          | 20,0 | 20,0 | 65,0  | 125,0 | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-250D3R050.3Z5 | SIRA  | 10303402    | 3            | D          | 25,0 | 25,0 | 85,0  | 155,0 | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-250D3R100.3Z5 | SIRA  | 10303403    | 3            | D          | 25,0 | 25,0 | 85,0  | 155,0 | 1,0 | 5     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

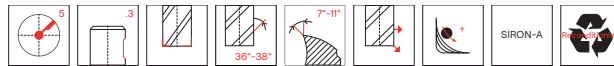
## ST5551

High performance – Universal – Square – 5 Flutes – Weldon – Sharp – Inch



D

- Tolerances:
- DMM=  $\pm 0.001'' / \pm 0.004''$
- DC=  $\pm 0.000'' / \pm 0.002''$
- Regrind possible



| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank  | Stock standard           |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|--------|--------------------------|
| ST5551-.250D1S.3Z5 | SIRA  | 10303194    | 1            | D          | inch  | inch  | inch  | inch  | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375D1S.3Z5 | SIRA  | 10303195    | 1            | D          | 0.250 | 0.250 | 0.375 | 2.000 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D1S.3Z5 | SIRA  | 10303196    | 1            | D          | 0.375 | 0.375 | 0.500 | 2.500 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D1S.3Z5 | SIRA  | 10303197    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750D1S.3Z5 | SIRA  | 10303198    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.313D2S.3Z5 | SIRA  | 10303199    | 2            | D          | 0.750 | 0.750 | 0.875 | 3.000 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375D2S.3Z5 | SIRA  | 10303200    | 2            | D          | 0.313 | 0.313 | 0.750 | 2.500 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D2S.3Z5 | SIRA  | 10303201    | 2            | D          | 0.375 | 0.375 | 0.875 | 2.500 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D2S.3Z5 | SIRA  | 10303202    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750D2S.3Z5 | SIRA  | 10303203    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.250D3S.3Z5 | SIRA  | 10303204    | 3            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D3S.3Z5 | SIRA  | 10303205    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D4S.3Z5 | SIRA  | 10303211    | 4            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D5S.3Z5 | SIRA  | 10303216    | 5            | D          | 0.625 | 0.625 | 2.125 | 4.000 | 5     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

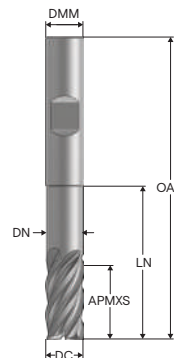
Graphite

X-Heads

Minimaster

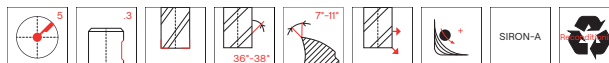
## ST5551

High performance – Universal – Square – 5 Flutes – Weldon – Sharp – Inch



E

—Tolerances:  
—DMM= -.0001"/-.0004"  
—DC= +.000" / -.002"  
—Reground possible

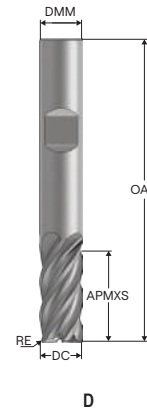


| Designation        | Grade | Item number | Length index | Tool shape | DC            | DMM           | APMXS         | OAL           | LN            | DN            | PCEDC | Shank  | Stock standard           |
|--------------------|-------|-------------|--------------|------------|---------------|---------------|---------------|---------------|---------------|---------------|-------|--------|--------------------------|
| ST5551-.750E3S.3Z5 | SIRA  | 10303206    | 3            | E          | inch<br>0.750 | inch<br>0.750 | inch<br>1.125 | inch<br>5.000 | inch<br>2.500 | inch<br>0.720 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.250E4S.3Z5 | SIRA  | 10303207    | 4            | E          | 0.250         | 0.250         | 0.500         | 3.000         | 1.000         | 0.240         | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375E4S.3Z5 | SIRA  | 10303208    | 4            | E          | 0.375         | 0.375         | 0.750         | 3.000         | 1.500         | 0.360         | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500E4S.3Z5 | SIRA  | 10303209    | 4            | E          | 0.500         | 0.500         | 1.000         | 4.000         | 2.000         | 0.480         | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625E4S.3Z5 | SIRA  | 10303210    | 4            | E          | 0.625         | 0.625         | 1.250         | 5.000         | 2.500         | 0.600         | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750E4S.3Z5 | SIRA  | 10303212    | 4            | E          | 0.750         | 0.750         | 1.500         | 5.000         | 3.000         | 0.720         | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.250E5S.3Z5 | SIRA  | 10303213    | 5            | E          | 0.250         | 0.250         | 0.500         | 4.000         | 1.250         | 0.240         | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375E5S.3Z5 | SIRA  | 10303214    | 5            | E          | 0.375         | 0.375         | 0.500         | 4.000         | 2.125         | 0.360         | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625E5S.3Z5 | SIRA  | 10303215    | 5            | E          | 0.625         | 0.625         | 0.750         | 6.000         | 3.375         | 0.600         | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750E5S.3Z5 | SIRA  | 10303217    | 5            | E          | 0.750         | 0.750         | 1.125         | 6.000         | 4.125         | 0.720         | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500E6S.3Z5 | SIRA  | 10303218    | 6            | E          | 0.500         | 0.500         | 0.625         | 5.000         | 3.125         | 0.480         | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.250E8S.3Z5 | SIRA  | 10303219    | 8            | E          | 0.250         | 0.250         | 0.500         | 4.000         | 2.125         | 0.240         | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375E8S.3Z5 | SIRA  | 10303220    | 8            | E          | 0.375         | 0.375         | 0.500         | 6.000         | 3.125         | 0.360         | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500E8S.3Z5 | SIRA  | 10303221    | 8            | E          | 0.500         | 0.500         | 0.625         | 6.000         | 4.109         | 0.480         | 5     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

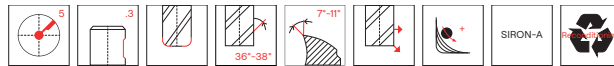
## ST5551

High performance – Universal – Square – 5 Flutes – Weldon – Corner radius – Inch



D

- Tolerances:
- DMM=  $\pm 0.001$ " /  $\pm 0.004$ "
- DC=  $\pm 0.000$ " /  $\pm 0.002$ "
- RE=  $\pm 0.008$ "
- Regrind possible



| Designation           | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank  | Stock standard           |
|-----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|--------|--------------------------|
| ST5551-.250D1R015.3Z5 | SIRA  | 10303222    | 1            | D          | inch  | inch  | inch  | inch  | inch  | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.250D1R030.3Z5 | SIRA  | 10303223    | 1            | D          | 0.250 | 0.250 | 0.375 | 2.000 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.250D1R045.3Z5 | SIRA  | 10303224    | 1            | D          | 0.250 | 0.250 | 0.375 | 2.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375D1R015.3Z5 | SIRA  | 10303225    | 1            | D          | 0.375 | 0.375 | 0.500 | 2.500 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375D1R030.3Z5 | SIRA  | 10303226    | 1            | D          | 0.375 | 0.375 | 0.500 | 2.500 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375D1R045.3Z5 | SIRA  | 10303227    | 1            | D          | 0.375 | 0.375 | 0.500 | 2.500 | 0.045 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D1R015.3Z5 | SIRA  | 10303228    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D1R030.3Z5 | SIRA  | 10303231    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D1R045.3Z5 | SIRA  | 10303229    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 0.045 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D1R060.3Z5 | SIRA  | 10303232    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D1R120.3Z5 | SIRA  | 10303230    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 0.120 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D1R015.3Z5 | SIRA  | 10303233    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D1R030.3Z5 | SIRA  | 10303235    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D1R060.3Z5 | SIRA  | 10303236    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D1R120.3Z5 | SIRA  | 10303234    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 0.120 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750D1R030.3Z5 | SIRA  | 10303237    | 1            | D          | 0.750 | 0.750 | 0.875 | 3.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750D1R060.3Z5 | SIRA  | 10303238    | 1            | D          | 0.750 | 0.750 | 0.875 | 3.000 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750D1R120.3Z5 | SIRA  | 10303239    | 1            | D          | 0.750 | 0.750 | 0.875 | 3.000 | 0.120 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.313D2R015.3Z5 | SIRA  | 10303240    | 2            | D          | 0.313 | 0.313 | 0.750 | 2.500 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375D2R015.3Z5 | SIRA  | 10303241    | 2            | D          | 0.375 | 0.375 | 0.875 | 2.500 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375D2R030.3Z5 | SIRA  | 10303242    | 2            | D          | 0.375 | 0.375 | 0.875 | 2.500 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375D2R045.3Z5 | SIRA  | 10303243    | 2            | D          | 0.375 | 0.375 | 0.875 | 2.500 | 0.045 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375D2R060.3Z5 | SIRA  | 10303244    | 2            | D          | 0.375 | 0.375 | 0.875 | 2.500 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D2R015.3Z5 | SIRA  | 10303245    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D2R030.3Z5 | SIRA  | 10303246    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D2R060.3Z5 | SIRA  | 10303247    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D2R015.3Z5 | SIRA  | 10303248    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D2R030.3Z5 | SIRA  | 10303249    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D2R045.3Z5 | SIRA  | 10303250    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.045 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D2R060.3Z5 | SIRA  | 10303251    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D2R090.3Z5 | SIRA  | 10303252    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.090 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D2R125.3Z5 | SIRA  | 10303253    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.125 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750D2R030.3Z5 | SIRA  | 10303254    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750D2R060.3Z5 | SIRA  | 10303255    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750D2R090.3Z5 | SIRA  | 10303256    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.090 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750D2R125.3Z5 | SIRA  | 10303257    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.125 | 5     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

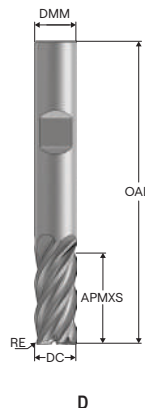
Graphite

X-Heads

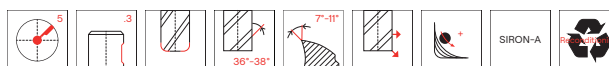
Minimaster

## ST5551

High performance – Universal – Square – 5 Flutes – Weldon – Corner radius – Inch



—Tolerances:  
—DMM=  $\pm .0001$ " /  $\pm .0004$ "  
—DC=  $\pm .000$ " /  $\pm .002$ "  
—RE=  $\pm .0008$ "  
—Regrind possible



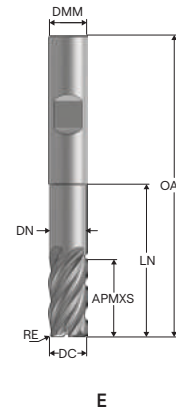
| Designation           | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank  | Stock standard           |
|-----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|--------|--------------------------|
| ST5551-1.00D2R015.3Z5 | SIRA  | 10303258    | 2            | D          | 1.000 | 1.000 | 1.750 | 4.000 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-1.00D2R030.3Z5 | SIRA  | 10303259    | 2            | D          | 1.000 | 1.000 | 1.750 | 4.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-1.00D2R060.3Z5 | SIRA  | 10303260    | 2            | D          | 1.000 | 1.000 | 1.750 | 4.000 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.250D3R015.3Z5 | SIRA  | 10303261    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.250D3R030.3Z5 | SIRA  | 10303262    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.250D3R045.3Z5 | SIRA  | 10303263    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.045 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375D3R030.3Z5 | SIRA  | 10303264    | 3            | D          | 0.375 | 0.375 | 1.250 | 3.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D3R015.3Z5 | SIRA  | 10303265    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D3R030.3Z5 | SIRA  | 10303266    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D3R045.3Z5 | SIRA  | 10303267    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.045 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D3R060.3Z5 | SIRA  | 10303268    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D3R090.3Z5 | SIRA  | 10303269    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.090 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D3R125.3Z5 | SIRA  | 10303270    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.125 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750D3R030.3Z5 | SIRA  | 10303274    | 3            | D          | 0.750 | 0.750 | 1.625 | 4.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.250D4R015.3Z5 | SIRA  | 10303280    | 4            | D          | 0.250 | 0.250 | 1.000 | 3.000 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375D4R030.3Z5 | SIRA  | 10303285    | 4            | D          | 0.375 | 0.375 | 1.500 | 4.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D4R030.3Z5 | SIRA  | 10303290    | 4            | D          | 0.500 | 0.500 | 1.625 | 4.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750D4R030.3Z5 | SIRA  | 10303296    | 4            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D5R030.3Z5 | SIRA  | 10303303    | 5            | D          | 0.500 | 0.500 | 2.000 | 4.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750D5R030.3Z5 | SIRA  | 10303309    | 5            | D          | 0.750 | 0.750 | 2.750 | 5.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.



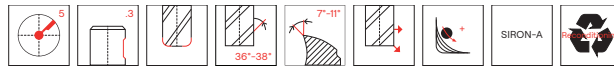
## ST5551

High performance – Universal – Square – 5 Flutes – Weldon – Corner radius – Inch



E

- Tolerances:
- DMM=  $\pm 0.001$ " /  $\pm 0.004$ "
- DC=  $\pm 0.000$ " /  $\pm 0.002$ "
- RE=  $\pm 0.008$ "
- Regrind possible



| Designation           | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | LN    | DN    | RE    | PCEDC | Shank  | Stock standard           |
|-----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------------------------|
| ST5551-.750E3R030.3Z5 | SIRA  | 10303271    | 3            | E          | inch  | inch  | inch  | inch  | inch  | inch  | inch  |       | Weldon | <input type="checkbox"/> |
| ST5551-.750E3R060.3Z5 | SIRA  | 10303272    | 3            | E          | 0.750 | 0.750 | 1.125 | 5.000 | 2.500 | 0.720 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750E3R120.3Z5 | SIRA  | 10303273    | 3            | E          | 0.750 | 0.750 | 1.125 | 5.000 | 2.500 | 0.720 | 0.120 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-1.00E3R030.3Z5 | SIRA  | 10303275    | 3            | E          | 1.000 | 1.000 | 1.250 | 6.000 | 3.500 | 0.960 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-1.00E3R060.3Z5 | SIRA  | 10303276    | 3            | E          | 1.000 | 1.000 | 1.250 | 6.000 | 3.500 | 0.960 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-1.00E3R120.3Z5 | SIRA  | 10303277    | 3            | E          | 1.000 | 1.000 | 1.250 | 6.000 | 3.500 | 0.960 | 0.120 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.250E4R015.3Z5 | SIRA  | 10303278    | 4            | E          | 0.250 | 0.250 | 0.500 | 3.000 | 1.000 | 0.240 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.250E4R030.3Z5 | SIRA  | 10303279    | 4            | E          | 0.250 | 0.250 | 0.500 | 3.000 | 1.000 | 0.240 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375E4R015.3Z5 | SIRA  | 10303281    | 4            | E          | 0.375 | 0.375 | 0.750 | 3.000 | 1.500 | 0.360 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375E4R030.3Z5 | SIRA  | 10303282    | 4            | E          | 0.375 | 0.375 | 0.750 | 3.000 | 1.500 | 0.360 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375E4R045.3Z5 | SIRA  | 10303283    | 4            | E          | 0.375 | 0.375 | 0.750 | 3.000 | 1.500 | 0.360 | 0.045 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375E4R060.3Z5 | SIRA  | 10303284    | 4            | E          | 0.375 | 0.375 | 0.750 | 3.000 | 1.500 | 0.360 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500E4R015.3Z5 | SIRA  | 10303286    | 4            | E          | 0.500 | 0.500 | 1.000 | 4.000 | 2.000 | 0.480 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500E4R030.3Z5 | SIRA  | 10303287    | 4            | E          | 0.500 | 0.500 | 1.000 | 4.000 | 2.000 | 0.480 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500E4R060.3Z5 | SIRA  | 10303288    | 4            | E          | 0.500 | 0.500 | 1.000 | 4.000 | 2.000 | 0.480 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500E4R120.3Z5 | SIRA  | 10303289    | 4            | E          | 0.500 | 0.500 | 1.000 | 4.000 | 2.000 | 0.480 | 0.120 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625E4R030.3Z5 | SIRA  | 10303291    | 4            | E          | 0.625 | 0.625 | 1.250 | 5.000 | 2.500 | 0.600 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625E4R060.3Z5 | SIRA  | 10303292    | 4            | E          | 0.625 | 0.625 | 1.250 | 5.000 | 2.500 | 0.600 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750E4R030.3Z5 | SIRA  | 10303293    | 4            | E          | 0.750 | 0.750 | 1.500 | 5.000 | 3.000 | 0.720 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750E4R060.3Z5 | SIRA  | 10303294    | 4            | E          | 0.750 | 0.750 | 1.500 | 5.000 | 3.000 | 0.720 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750E4R120.3Z5 | SIRA  | 10303295    | 4            | E          | 0.750 | 0.750 | 1.500 | 5.000 | 3.000 | 0.720 | 0.120 | 5     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

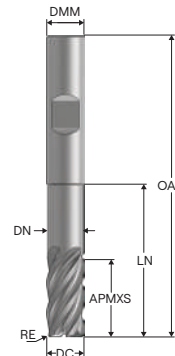
Graphite

X-Heads

Minimaster

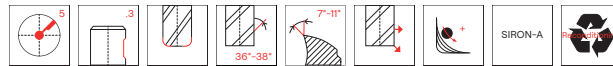
## ST5551

High performance – Universal – Square – 5 Flutes – Weldon – Corner radius – Inch



E

—Tolerances:  
—DMM =  $\pm .0001" / \pm .0004"$   
—DC =  $\pm .000" / \pm .002"$   
—RE =  $\pm .0008"$   
—Regrind possible

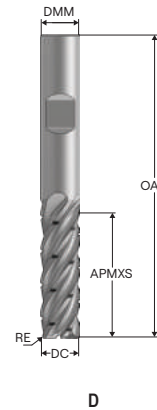


|                  | Designation          | Grade | Item number | Length index | Tool shape |       |       |       |       |       |       |       | PCEDC | Shank  | Stock standard           |
|------------------|----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------------------------|
|                  |                      |       |             |              |            | DC    | DMM   | APMXS | OAL   | LN    | DN    | RE    |       |        |                          |
| Non ferrous      |                      |       |             |              |            | inch  | inch  | inch  | inch  | inch  | inch  | inch  |       |        |                          |
|                  | ST5551-250E5R015.3Z5 | SIRA  | 10303297    | 5            | E          | 0.250 | 0.250 | 0.500 | 4.000 | 1.250 | 0.240 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-250E5R030.3Z5 | SIRA  | 10303298    | 5            | E          | 0.250 | 0.250 | 0.500 | 4.000 | 1.250 | 0.240 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| Hard             | ST5551-375E5R015.3Z5 | SIRA  | 10303299    | 5            | E          | 0.375 | 0.375 | 0.500 | 4.000 | 2.125 | 0.360 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-375E5R030.3Z5 | SIRA  | 10303300    | 5            | E          | 0.375 | 0.375 | 0.500 | 4.000 | 2.125 | 0.360 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-375E5R045.3Z5 | SIRA  | 10303301    | 5            | E          | 0.375 | 0.375 | 0.500 | 4.000 | 2.125 | 0.360 | 0.045 | 5     | Weldon | <input type="checkbox"/> |
| Plastic and cfrp | ST5551-375E5R060.3Z5 | SIRA  | 10303302    | 5            | E          | 0.375 | 0.375 | 0.500 | 4.000 | 2.125 | 0.360 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-625E5R030.3Z5 | SIRA  | 10303304    | 5            | E          | 0.625 | 0.625 | 0.750 | 6.000 | 3.375 | 0.600 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-625E5R060.3Z5 | SIRA  | 10303305    | 5            | E          | 0.625 | 0.625 | 0.750 | 6.000 | 3.375 | 0.600 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| Graphite         | ST5551-750E5R030.3Z5 | SIRA  | 10303306    | 5            | E          | 0.750 | 0.750 | 1.125 | 6.000 | 4.125 | 0.720 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-750E5R060.3Z5 | SIRA  | 10303307    | 5            | E          | 0.750 | 0.750 | 1.125 | 6.000 | 4.125 | 0.720 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-750E5R120.3Z5 | SIRA  | 10303308    | 5            | E          | 0.750 | 0.750 | 1.125 | 6.000 | 4.125 | 0.720 | 0.120 | 5     | Weldon | <input type="checkbox"/> |
| X-Heads          | ST5551-500E6R015.3Z5 | SIRA  | 10303310    | 6            | E          | 0.500 | 0.500 | 0.625 | 5.000 | 3.125 | 0.480 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-500E6R030.3Z5 | SIRA  | 10303311    | 6            | E          | 0.500 | 0.500 | 0.625 | 5.000 | 3.125 | 0.480 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-500E6R060.3Z5 | SIRA  | 10303312    | 6            | E          | 0.500 | 0.500 | 0.625 | 5.000 | 3.125 | 0.480 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
| Minimaster       | ST5551-500E6R120.3Z5 | SIRA  | 10303313    | 6            | E          | 0.500 | 0.500 | 0.625 | 5.000 | 3.125 | 0.480 | 0.120 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-250E8R015.3Z5 | SIRA  | 10303314    | 8            | E          | 0.250 | 0.250 | 0.500 | 4.000 | 2.125 | 0.240 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-250E8R030.3Z5 | SIRA  | 10303315    | 8            | E          | 0.250 | 0.250 | 0.500 | 4.000 | 2.125 | 0.240 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-375E8R015.3Z5 | SIRA  | 10303316    | 8            | E          | 0.375 | 0.375 | 0.500 | 6.000 | 3.125 | 0.360 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-375E8R030.3Z5 | SIRA  | 10303317    | 8            | E          | 0.375 | 0.375 | 0.500 | 6.000 | 3.125 | 0.360 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-375E8R045.3Z5 | SIRA  | 10303318    | 8            | E          | 0.375 | 0.375 | 0.500 | 6.000 | 3.125 | 0.360 | 0.045 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-375E8R060.3Z5 | SIRA  | 10303319    | 8            | E          | 0.375 | 0.375 | 0.500 | 6.000 | 3.125 | 0.360 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-500E8R015.3Z5 | SIRA  | 10303320    | 8            | E          | 0.500 | 0.500 | 0.625 | 6.000 | 4.125 | 0.480 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-500E8R030.3Z5 | SIRA  | 10303321    | 8            | E          | 0.500 | 0.500 | 0.625 | 6.000 | 4.125 | 0.480 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-500E8R060.3Z5 | SIRA  | 10303322    | 8            | E          | 0.500 | 0.500 | 0.625 | 6.000 | 4.125 | 0.480 | 0.060 | 5     | Weldon | <input type="checkbox"/> |
|                  | ST5551-500E8R120.3Z5 | SIRA  | 10303323    | 8            | E          | 0.500 | 0.500 | 0.625 | 6.000 | 4.125 | 0.480 | 0.120 | 5     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

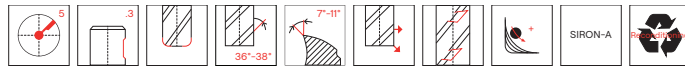
## ST5551

High performance – Universal – Square – 5 Flutes – Weldon – Corner radius – Inch



D

- Tolerances:
- DMM=  $-.0001''/- .0004''$
- DC=  $+ .000'' / - .002''$
- RE=  $\pm .0008''$
- Regrind possible



| Designation            | Grade | Item number | Length index | Tool shape | Chip splitters | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank  | Stock standard           |
|------------------------|-------|-------------|--------------|------------|----------------|-------|-------|-------|-------|-------|-------|--------|--------------------------|
| ST5551-.250D3R015.3Z5C | SIRA  | 10303324    | 3            | D          | ■              | 0.250 | 0.250 | 0.750 | 2.500 | 0.015 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.375D3R030.3Z5C | SIRA  | 10303325    | 3            | D          | ■              | 0.375 | 0.375 | 1.250 | 3.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D3R030.3Z5C | SIRA  | 10303326    | 3            | D          | ■              | 0.500 | 0.500 | 1.250 | 3.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D3R030.3Z5C | SIRA  | 10303327    | 3            | D          | ■              | 0.625 | 0.625 | 1.375 | 3.500 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750D3R030.3Z5C | SIRA  | 10303328    | 3            | D          | ■              | 0.750 | 0.750 | 1.625 | 4.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.500D4R030.3Z5C | SIRA  | 10303329    | 4            | D          | ■              | 0.500 | 0.500 | 1.625 | 4.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.750D4R030.3Z5C | SIRA  | 10303330    | 4            | D          | ■              | 0.750 | 0.750 | 2.250 | 5.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |
| ST5551-.625D5R030.3Z5C | SIRA  | 10303331    | 5            | D          | ■              | 0.625 | 0.625 | 2.125 | 4.000 | 0.030 | 5     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – ST5551 Side milling

| SMG |  | $a_e$ /DC    | $a_p$ /DC  | $f_z$            |                 |                 |                 |                 |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|--------------|------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |              |            | 6                | 8               | 10              | 12              | 16              | 20              | 25              |                                    |
| P1  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,038<br>0,0015  | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,12<br>0,0048  | 175 (140 — 210)<br>570 (460 — 680) |
| P2  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,040<br>0,0016  | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,13<br>0,0050  | 170 (140 — 210)<br>560 (460 — 680) |
| P3  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,038<br>0,0015  | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,12<br>0,0048  | 150 (120 — 180)<br>490 (400 — 590) |
| P4  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,036<br>0,0014  | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,090<br>0,0036 | 0,10<br>0,0040  | 0,12<br>0,0048  | 130 (110 — 160)<br>425 (370 — 520) |
| P5  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,036<br>0,0014  | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,090<br>0,0036 | 0,10<br>0,0040  | 0,12<br>0,0048  | 125 (97 — 150)<br>410 (320 — 490)  |
| P6  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,036<br>0,0014  | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040  | 0,11<br>0,0044  | 140 (110 — 170)<br>460 (370 — 550) |
| P7  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,036<br>0,0014  | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040  | 0,11<br>0,0044  | 135 (110 — 160)<br>445 (370 — 520) |
| P8  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,038<br>0,0015  | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,12<br>0,0048  | 125 (97 — 150)<br>410 (320 — 490)  |
| P11 | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,030<br>0,0012  | 0,040<br>0,0016 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 0,095<br>0,0038 | 120 (110 — 140)<br>395 (370 — 450) |
| P12 | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,020<br>0,00080 | 0,028<br>0,0011 | 0,034<br>0,0013 | 0,040<br>0,0016 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,065<br>0,0026 | 75 (66 — 88)<br>245 (220 — 280)    |
| M1  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,034<br>0,0013  | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,11<br>0,0044  | 140 (120 — 160)<br>460 (400 — 520) |
| M2  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,030<br>0,0012  | 0,040<br>0,0016 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 0,095<br>0,0038 | 115 (99 — 130)<br>375 (330 — 420)  |
| M3  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,024<br>0,00095 | 0,032<br>0,0013 | 0,040<br>0,0016 | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,075<br>0,0030 | 90 (79 — 100)<br>295 (260 — 320)   |
| M4  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,022<br>0,00085 | 0,028<br>0,0011 | 0,036<br>0,0014 | 0,042<br>0,0017 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,065<br>0,0026 | 70 (60 — 80)<br>230 (200 — 260)    |
| M5  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,022<br>0,00085 | 0,028<br>0,0011 | 0,036<br>0,0014 | 0,042<br>0,0017 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,065<br>0,0026 | 60 (50 — 67)<br>195 (170 — 210)    |
| K1  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,036<br>0,0014  | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,090<br>0,0036 | 0,10<br>0,0040  | 0,12<br>0,0048  | 150 (120 — 180)<br>490 (400 — 590) |
| K2  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,034<br>0,0013  | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,11<br>0,0044  | 130 (110 — 160)<br>425 (370 — 520) |
| K3  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,034<br>0,0013  | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,11<br>0,0044  | 110 (85 — 140)<br>360 (280 — 450)  |
| K4  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,034<br>0,0013  | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,11<br>0,0044  | 105 (81 — 130)<br>345 (270 — 420)  |
| K5  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,030<br>0,0012  | 0,040<br>0,0016 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 0,095<br>0,0038 | 65 (50 — 81)<br>215 (170 — 260)    |
| K6  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,034<br>0,0013  | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,11<br>0,0044  | 110 (85 — 130)<br>360 (280 — 420)  |
| K7  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,030<br>0,0012  | 0,040<br>0,0016 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 0,095<br>0,0038 | 95 (75 — 120)<br>310 (250 — 390)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

### Cutting data – ST5551 Side milling

| SMG |  | $a_e/DC$     | $a_p/DC$   | $f_z$            |                  |                 |                 |                 |                 |                 | $v_c$                                |
|-----|-----------------------------------------------------------------------------------|--------------|------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------------------------|
|     |                                                                                   |              |            | 6                | 8                | 10              | 12              | 16              | 20              | 25              |                                      |
| N1  | E                                                                                 | 0,30<br>0.30 | 2,0<br>2.0 | 0,048<br>0.0019  | 0,065<br>0.0026  | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 385 (300 — 470)<br>1275 (990 — 1500) |
| N2  | E                                                                                 | 0,30<br>0.30 | 2,0<br>2.0 | 0,048<br>0.0019  | 0,065<br>0.0026  | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 250 (190 — 300)<br>820 (630 — 980)   |
| N3  | E                                                                                 | 0,30<br>0.30 | 2,0<br>2.0 | 0,048<br>0.0019  | 0,065<br>0.0026  | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 165 (130 — 200)<br>540 (430 — 650)   |
| N11 | E                                                                                 | 0,30<br>0.30 | 2,0<br>2.0 | 0,048<br>0.0019  | 0,065<br>0.0026  | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 220 (170 — 270)<br>720 (560 — 880)   |
| S1  | E                                                                                 | 0,24<br>0.24 | 2,0<br>2.0 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,075<br>0.0030 | 47 (36 — 76)<br>155 (120 — 240)      |
| S2  | E                                                                                 | 0,24<br>0.24 | 2,0<br>2.0 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,075<br>0.0030 | 38 (29 — 61)<br>125 (96 — 200)       |
| S3  | E                                                                                 | 0,24<br>0.24 | 2,0<br>2.0 | 0,022<br>0.00085 | 0,030<br>0.0012  | 0,038<br>0.0015 | 0,044<br>0.0017 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,070<br>0.0028 | 33 (25 — 53)<br>110 (83 — 170)       |
| S11 | E                                                                                 | 0,24<br>0.24 | 2,0<br>2.0 | 0,028<br>0.0011  | 0,036<br>0.0014  | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,090<br>0.0036 | 65 (50 — 100)<br>215 (170 — 320)     |
| S12 | E                                                                                 | 0,24<br>0.24 | 2,0<br>2.0 | 0,028<br>0.0011  | 0,036<br>0.0014  | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,090<br>0.0036 | 50 (39 — 82)<br>165 (130 — 260)      |
| S13 | E                                                                                 | 0,24<br>0.24 | 2,0<br>2.0 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,075<br>0.0030 | 40 (31 — 65)<br>130 (110 — 210)      |
| H5  | M/A/D                                                                             | 0,15<br>0.15 | 2,0<br>2.0 | 0,022<br>0.00085 | 0,028<br>0.0011  | 0,036<br>0.0014 | 0,042<br>0.0017 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,065<br>0.0026 | 115 (86 — 140)<br>375 (290 — 450)    |
| H8  | M/A/D                                                                             | 0,15<br>0.15 | 2,0<br>2.0 | 0,016<br>0.00065 | 0,022<br>0.00085 | 0,026<br>0.0010 | 0,032<br>0.0013 | 0,038<br>0.0015 | 0,044<br>0.0017 | 0,050<br>0.0020 | 120 (89 — 140)<br>395 (300 — 450)    |
| H11 | M/A/D                                                                             | 0,15<br>0.15 | 2,0<br>2.0 | 0,022<br>0.00085 | 0,028<br>0.0011  | 0,036<br>0.0014 | 0,042<br>0.0017 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,065<br>0.0026 | 145 (110 — 180)<br>475 (370 — 590)   |
| H12 | M/A/D                                                                             | 0,15<br>0.15 | 2,0<br>2.0 | 0,016<br>0.00065 | 0,022<br>0.00085 | 0,026<br>0.0010 | 0,032<br>0.0013 | 0,038<br>0.0015 | 0,044<br>0.0017 | 0,050<br>0.0020 | 140 (110 — 170)<br>460 (370 — 550)   |
| H21 | M/A/D                                                                             | 0,15<br>0.15 | 2,0<br>2.0 | 0,016<br>0.00065 | 0,022<br>0.00085 | 0,026<br>0.0010 | 0,032<br>0.0013 | 0,038<br>0.0015 | 0,044<br>0.0017 | 0,050<br>0.0020 | 120 (89 — 140)<br>395 (300 — 450)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrrp

Graphite

X-Heads

Minimaster

## Cutting data – ST5551 Side milling advanced roughing $a_e/DC = 0,10$

| SMG |  | $a_p/DC$ | $f_z$  |        |        |        |        |        |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|--------|--------|--------|--------|--------|--------|--------|-----------------|
|     |                                                                                   |          | 6      | 8      | 10     | 12     | 16     | 20     | 25     |                 |
| P1  | M/A/D/E                                                                           | 2,0      | 0,048  | 0,065  | 0,080  | 0,095  | 0,13   | 0,16   | 0,19   | 215 (170 — 260) |
|     |                                                                                   | 2,0      | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 0,0075 | 710 (560 — 850) |
| P2  | M/A/D/E                                                                           | 2,0      | 0,048  | 0,065  | 0,080  | 0,095  | 0,13   | 0,16   | 0,19   | 210 (170 — 260) |
|     |                                                                                   | 2,0      | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 0,0075 | 690 (560 — 850) |
| P3  | M/A/D/E                                                                           | 2,0      | 0,048  | 0,065  | 0,080  | 0,095  | 0,13   | 0,16   | 0,18   | 180 (140 — 220) |
|     |                                                                                   | 2,0      | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 0,0070 | 590 (460 — 720) |
| P4  | M/A/D/E                                                                           | 2,0      | 0,048  | 0,065  | 0,080  | 0,095  | 0,13   | 0,16   | 0,18   | 160 (130 — 190) |
|     |                                                                                   | 2,0      | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 0,0070 | 520 (430 — 620) |
| P5  | M/A/D/E                                                                           | 2,0      | 0,048  | 0,065  | 0,080  | 0,095  | 0,13   | 0,16   | 0,18   | 155 (120 — 180) |
|     |                                                                                   | 2,0      | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 0,0070 | 510 (400 — 590) |
| P6  | M/A/D/E                                                                           | 2,0      | 0,048  | 0,065  | 0,080  | 0,095  | 0,13   | 0,15   | 0,18   | 170 (140 — 210) |
|     |                                                                                   | 2,0      | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0060 | 0,0070 | 560 (460 — 680) |
| P7  | M/A/D/E                                                                           | 2,0      | 0,048  | 0,065  | 0,080  | 0,095  | 0,13   | 0,15   | 0,18   | 160 (130 — 200) |
|     |                                                                                   | 2,0      | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0060 | 0,0070 | 520 (430 — 650) |
| P8  | M/A/D/E                                                                           | 2,0      | 0,048  | 0,065  | 0,080  | 0,095  | 0,13   | 0,16   | 0,18   | 155 (120 — 180) |
|     |                                                                                   | 2,0      | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 0,0070 | 510 (400 — 590) |
| P11 | M/A/D/E                                                                           | 2,0      | 0,042  | 0,055  | 0,070  | 0,085  | 0,11   | 0,13   | 0,15   | 145 (130 — 160) |
|     |                                                                                   | 2,0      | 0,0017 | 0,0022 | 0,0028 | 0,0034 | 0,0044 | 0,0050 | 0,0060 | 475 (430 — 520) |
| P12 | M/A/D/E                                                                           | 2,0      | 0,032  | 0,042  | 0,050  | 0,060  | 0,075  | 0,090  | 0,10   | 90 (78 — 100)   |
|     |                                                                                   | 2,0      | 0,0013 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0040 | 295 (260 — 320) |
| M1  | E                                                                                 | 2,0      | 0,042  | 0,055  | 0,070  | 0,085  | 0,11   | 0,14   | 0,16   | 170 (150 — 190) |
|     |                                                                                   | 2,0      | 0,0017 | 0,0022 | 0,0028 | 0,0034 | 0,0044 | 0,0055 | 0,0065 | 560 (500 — 620) |
| M2  | E                                                                                 | 2,0      | 0,042  | 0,055  | 0,070  | 0,085  | 0,11   | 0,13   | 0,15   | 140 (120 — 150) |
|     |                                                                                   | 2,0      | 0,0017 | 0,0022 | 0,0028 | 0,0034 | 0,0044 | 0,0050 | 0,0060 | 460 (400 — 490) |
| M3  | E                                                                                 | 2,0      | 0,038  | 0,050  | 0,060  | 0,075  | 0,090  | 0,10   | 0,12   | 110 (93 — 120)  |
|     |                                                                                   | 2,0      | 0,0015 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0040 | 0,0048 | 360 (310 — 390) |
| M4  | E                                                                                 | 2,0      | 0,032  | 0,044  | 0,055  | 0,065  | 0,080  | 0,090  | 0,10   | 80 (71 — 94)    |
|     |                                                                                   | 2,0      | 0,0013 | 0,0017 | 0,0022 | 0,0026 | 0,0032 | 0,0036 | 0,0040 | 260 (240 — 300) |
| M5  | E                                                                                 | 2,0      | 0,032  | 0,044  | 0,055  | 0,065  | 0,080  | 0,090  | 0,10   | 70 (59 — 79)    |
|     |                                                                                   | 2,0      | 0,0013 | 0,0017 | 0,0022 | 0,0026 | 0,0032 | 0,0036 | 0,0040 | 230 (200 — 250) |
| K1  | E                                                                                 | 2,0      | 0,048  | 0,065  | 0,080  | 0,095  | 0,13   | 0,16   | 0,18   | 180 (140 — 220) |
|     |                                                                                   | 2,0      | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 0,0070 | 590 (460 — 720) |
| K2  | E                                                                                 | 2,0      | 0,048  | 0,065  | 0,080  | 0,095  | 0,13   | 0,14   | 0,16   | 155 (120 — 190) |
|     |                                                                                   | 2,0      | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0055 | 0,0065 | 510 (400 — 620) |
| K3  | E                                                                                 | 2,0      | 0,048  | 0,065  | 0,080  | 0,095  | 0,13   | 0,14   | 0,16   | 135 (110 — 160) |
|     |                                                                                   | 2,0      | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0055 | 0,0065 | 445 (370 — 520) |
| K4  | E                                                                                 | 2,0      | 0,048  | 0,065  | 0,080  | 0,095  | 0,13   | 0,14   | 0,16   | 125 (97 — 160)  |
|     |                                                                                   | 2,0      | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0055 | 0,0065 | 410 (320 — 520) |
| K5  | E                                                                                 | 2,0      | 0,046  | 0,060  | 0,075  | 0,090  | 0,11   | 0,13   | 0,15   | 75 (58 — 96)    |
|     |                                                                                   | 2,0      | 0,0018 | 0,0024 | 0,0030 | 0,0036 | 0,0044 | 0,0050 | 0,0060 | 245 (200 — 310) |
| K6  | E                                                                                 | 2,0      | 0,048  | 0,065  | 0,080  | 0,095  | 0,13   | 0,14   | 0,16   | 130 (110 — 160) |
|     |                                                                                   | 2,0      | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0055 | 0,0065 | 425 (370 — 520) |
| K7  | E                                                                                 | 2,0      | 0,046  | 0,060  | 0,075  | 0,090  | 0,11   | 0,13   | 0,15   | 115 (88 — 140)  |
|     |                                                                                   | 2,0      | 0,0018 | 0,0024 | 0,0030 | 0,0036 | 0,0044 | 0,0050 | 0,0060 | 375 (290 — 450) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

Cutting data – ST5551 Side milling advanced roughing  $a_e/DC = 0,10$

| SMG |  | $a_p/DC$ | $f_z$   |        |        |        |        |        |        | $v_c$              |
|-----|-----------------------------------------------------------------------------------|----------|---------|--------|--------|--------|--------|--------|--------|--------------------|
|     |                                                                                   |          | 6       | 8      | 10     | 12     | 16     | 20     | 25     |                    |
| N1  | E                                                                                 | 2,0      | 0,048   | 0,065  | 0,080  | 0,095  | 0,13   | 0,16   | 0,20   | 495 (380 — 610)    |
|     |                                                                                   | 2,0      | 0,0019  | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 0,0080 | 1625 (1300 — 2000) |
| N2  | E                                                                                 | 2,0      | 0,048   | 0,065  | 0,080  | 0,095  | 0,13   | 0,16   | 0,20   | 320 (250 — 390)    |
|     |                                                                                   | 2,0      | 0,0019  | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 0,0080 | 1050 (830 — 1200)  |
| N3  | E                                                                                 | 2,0      | 0,048   | 0,065  | 0,080  | 0,095  | 0,13   | 0,16   | 0,20   | 215 (170 — 260)    |
|     |                                                                                   | 2,0      | 0,0019  | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 0,0080 | 710 (560 — 850)    |
| N11 | E                                                                                 | 2,0      | 0,048   | 0,065  | 0,080  | 0,095  | 0,13   | 0,16   | 0,20   | 285 (220 — 350)    |
|     |                                                                                   | 2,0      | 0,0019  | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 0,0080 | 940 (730 — 1100)   |
| S1  | E                                                                                 | 2,0      | 0,032   | 0,044  | 0,055  | 0,065  | 0,085  | 0,095  | 0,11   | 55 (41 — 86)       |
|     |                                                                                   | 2,0      | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0034 | 0,0038 | 0,0044 | 180 (140 — 280)    |
| S2  | E                                                                                 | 2,0      | 0,032   | 0,044  | 0,055  | 0,065  | 0,085  | 0,095  | 0,11   | 43 (33 — 70)       |
|     |                                                                                   | 2,0      | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0034 | 0,0038 | 0,0044 | 140 (110 — 220)    |
| S3  | E                                                                                 | 2,0      | 0,032   | 0,042  | 0,055  | 0,065  | 0,080  | 0,090  | 0,10   | 37 (28 — 60)       |
|     |                                                                                   | 2,0      | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0032 | 0,0036 | 0,0040 | 120 (92 — 190)     |
| S11 | E                                                                                 | 2,0      | 0,032   | 0,044  | 0,055  | 0,065  | 0,090  | 0,11   | 0,13   | 75 (58 — 120)      |
|     |                                                                                   | 2,0      | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0036 | 0,0044 | 0,0050 | 245 (200 — 390)    |
| S12 | E                                                                                 | 2,0      | 0,032   | 0,044  | 0,055  | 0,065  | 0,090  | 0,11   | 0,13   | 60 (45 — 96)       |
|     |                                                                                   | 2,0      | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0036 | 0,0044 | 0,0050 | 195 (150 — 310)    |
| S13 | E                                                                                 | 2,0      | 0,032   | 0,044  | 0,055  | 0,065  | 0,085  | 0,095  | 0,11   | 46 (35 — 74)       |
|     |                                                                                   | 2,0      | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0034 | 0,0038 | 0,0044 | 150 (120 — 240)    |
| H5  | M/A/D                                                                             | 2,0      | 0,025   | 0,034  | 0,042  | 0,050  | 0,060  | 0,070  | 0,080  | 120 (91 — 150)     |
|     |                                                                                   | 2,0      | 0,0010  | 0,0013 | 0,0017 | 0,0020 | 0,0024 | 0,0028 | 0,0032 | 395 (300 — 490)    |
| H8  | M/A/D                                                                             | 2,0      | 0,019   | 0,026  | 0,032  | 0,038  | 0,046  | 0,055  | 0,060  | 125 (94 — 150)     |
|     |                                                                                   | 2,0      | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 0,0018 | 0,0022 | 0,0024 | 410 (310 — 490)    |
| H11 | M/A/D                                                                             | 2,0      | 0,025   | 0,034  | 0,042  | 0,050  | 0,060  | 0,070  | 0,080  | 155 (120 — 190)    |
|     |                                                                                   | 2,0      | 0,0010  | 0,0013 | 0,0017 | 0,0020 | 0,0024 | 0,0028 | 0,0032 | 510 (400 — 620)    |
| H12 | M/A/D                                                                             | 2,0      | 0,019   | 0,026  | 0,032  | 0,038  | 0,046  | 0,055  | 0,060  | 145 (110 — 180)    |
|     |                                                                                   | 2,0      | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 0,0018 | 0,0022 | 0,0024 | 475 (370 — 590)    |
| H21 | M/A/D                                                                             | 2,0      | 0,019   | 0,026  | 0,032  | 0,038  | 0,046  | 0,055  | 0,060  | 125 (94 — 150)     |
|     |                                                                                   | 2,0      | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 0,0018 | 0,0022 | 0,0024 | 410 (310 — 490)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – ST5551 Side milling – Inch

| SMG |  | $a_e$ /DC    | $a_p$ /DC  | $f_z$            |                  |                  |                  |                  |                 |                 |                 |                 |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|--------------|------------|------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |              |            | 1/8              | 5/32             | 3/16             | 7/32             | 1/4              | 5/16            | 3/8             | 1/2             | 5/8             | 3/4             | 1               |                                    |
| P1  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,020<br>0.00080 | 0,026<br>0.0010  | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,042<br>0.0017  | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,13<br>0.0050  | 175 (140 — 210)<br>570 (460 — 680) |
| P2  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,020<br>0.00080 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,036<br>0.0014  | 0,042<br>0.0017  | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,13<br>0.0050  | 170 (140 — 210)<br>560 (460 — 680) |
| P3  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,020<br>0.00080 | 0,025<br>0.0010  | 0,030<br>0.0012  | 0,034<br>0.0013  | 0,040<br>0.0016  | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 150 (120 — 180)<br>490 (400 — 590) |
| P4  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,019<br>0.00075 | 0,024<br>0.00095 | 0,030<br>0.0012  | 0,034<br>0.0013  | 0,038<br>0.0015  | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 130 (110 — 160)<br>425 (370 — 520) |
| P5  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,019<br>0.00075 | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,034<br>0.0013  | 0,038<br>0.0015  | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 125 (97 — 150)<br>410 (320 — 490)  |
| P6  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,019<br>0.00075 | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,034<br>0.0013  | 0,038<br>0.0015  | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,075<br>0.0030 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,11<br>0.0044  | 140 (110 — 170)<br>460 (370 — 550) |
| P7  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,019<br>0.00075 | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,034<br>0.0013  | 0,038<br>0.0015  | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,075<br>0.0030 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,11<br>0.0044  | 135 (110 — 160)<br>445 (370 — 520) |
| P8  | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,020<br>0.00080 | 0,025<br>0.0010  | 0,030<br>0.0012  | 0,034<br>0.0013  | 0,040<br>0.0016  | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 125 (97 — 150)<br>410 (320 — 490)  |
| P11 | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,016<br>0.00065 | 0,020<br>0.00080 | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,080<br>0.0032 | 0,095<br>0.0038 | 120 (110 — 140)<br>395 (370 — 450) |
| P12 | M/A/D/E                                                                           | 0,30<br>0,30 | 2,0<br>2,0 | 0,011<br>0.00044 | 0,014<br>0.00055 | 0,016<br>0.00065 | 0,019<br>0.00075 | 0,022<br>0.00085 | 0,028<br>0.0011 | 0,032<br>0.0013 | 0,042<br>0.0017 | 0,050<br>0.0020 | 0,055<br>0.0022 | 0,065<br>0.0026 | 75 (66 — 88)<br>245 (220 — 280)    |
| M1  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,018<br>0.00070 | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,044<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,11<br>0.0044  | 140 (120 — 160)<br>460 (400 — 520) |
| M2  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,016<br>0.00065 | 0,020<br>0.00080 | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 0,095<br>0.0038 | 115 (99 — 130)<br>375 (330 — 420)  |
| M3  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,013<br>0.00050 | 0,016<br>0.00065 | 0,019<br>0.00075 | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013 | 0,038<br>0.0015 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,065<br>0.0026 | 0,080<br>0.0032 | 90 (79 — 100)<br>295 (260 — 320)   |
| M4  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,011<br>0.00044 | 0,014<br>0.00055 | 0,017<br>0.00065 | 0,020<br>0.00080 | 0,022<br>0.00085 | 0,028<br>0.0011 | 0,034<br>0.0013 | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,070<br>0.0028 | 70 (60 — 80)<br>230 (200 — 260)    |
| M5  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,011<br>0.00044 | 0,014<br>0.00055 | 0,017<br>0.00065 | 0,020<br>0.00080 | 0,022<br>0.00085 | 0,028<br>0.0011 | 0,034<br>0.0013 | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,070<br>0.0028 | 60 (50 — 67)<br>195 (170 — 210)    |
| K1  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,019<br>0.00075 | 0,024<br>0.00095 | 0,030<br>0.0012  | 0,034<br>0.0013  | 0,038<br>0.0015  | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 150 (120 — 180)<br>490 (400 — 590) |
| K2  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,018<br>0.00070 | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,044<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,11<br>0.0044  | 130 (110 — 160)<br>425 (370 — 520) |
| K3  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,018<br>0.00070 | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,044<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,11<br>0.0044  | 110 (85 — 140)<br>360 (280 — 450)  |
| K4  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,018<br>0.00070 | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,044<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,11<br>0.0044  | 105 (81 — 130)<br>345 (270 — 420)  |
| K5  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,016<br>0.00065 | 0,020<br>0.00080 | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,080<br>0.0032 | 0,095<br>0.0038 | 65 (50 — 81)<br>215 (170 — 260)    |
| K6  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,018<br>0.00070 | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,044<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,11<br>0.0044  | 110 (85 — 130)<br>360 (280 — 420)  |
| K7  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,016<br>0.00065 | 0,020<br>0.00080 | 0,024<br>0.00095 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,080<br>0.0032 | 0,095<br>0.0038 | 95 (75 — 120)<br>310 (250 — 390)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values



### Cutting data – ST5551 Side milling – Inch

| SMG |  | $a_e/DC$     | $a_p/DC$   | $f_z$             |                  |                  |                  |                  |                  |                 |                 |                 |                 |                 | $v_c$                                |
|-----|-----------------------------------------------------------------------------------|--------------|------------|-------------------|------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------------------------|
|     |                                                                                   |              |            | 1/8               | 5/32             | 3/16             | 7/32             | 1/4              | 5/16             | 3/8             | 1/2             | 5/8             | 3/4             | 1               |                                      |
| N1  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,025<br>0,0010   | 0,032<br>0,0013  | 0,038<br>0,0015  | 0,044<br>0,0017  | 0,050<br>0,0020  | 0,065<br>0,0026  | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 385 (300 — 470)<br>1275 (990 — 1500) |
| N2  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,025<br>0,0010   | 0,032<br>0,0013  | 0,038<br>0,0015  | 0,044<br>0,0017  | 0,050<br>0,0020  | 0,065<br>0,0026  | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 250 (190 — 300)<br>820 (630 — 980)   |
| N3  | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,025<br>0,0010   | 0,032<br>0,0013  | 0,038<br>0,0015  | 0,044<br>0,0017  | 0,050<br>0,0020  | 0,065<br>0,0026  | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 165 (130 — 200)<br>540 (430 — 650)   |
| N11 | E                                                                                 | 0,30<br>0,30 | 2,0<br>2,0 | 0,025<br>0,0010   | 0,032<br>0,0013  | 0,038<br>0,0015  | 0,044<br>0,0017  | 0,050<br>0,0020  | 0,065<br>0,0026  | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 220 (170 — 270)<br>720 (560 — 880)   |
| S1  | E                                                                                 | 0,24<br>0,24 | 2,0<br>2,0 | 0,013<br>0,00050  | 0,016<br>0,00065 | 0,019<br>0,00075 | 0,022<br>0,00085 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,065<br>0,0026 | 0,075<br>0,0030 | 47 (36 — 76)<br>155 (120 — 240)      |
| S2  | E                                                                                 | 0,24<br>0,24 | 2,0<br>2,0 | 0,013<br>0,00050  | 0,016<br>0,00065 | 0,019<br>0,00075 | 0,022<br>0,00085 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,065<br>0,0026 | 0,075<br>0,0030 | 38 (29 — 61)<br>125 (96 — 200)       |
| S3  | E                                                                                 | 0,24<br>0,24 | 2,0<br>2,0 | 0,012<br>0,00048  | 0,015<br>0,00060 | 0,018<br>0,00070 | 0,020<br>0,00080 | 0,024<br>0,00095 | 0,030<br>0,0012  | 0,036<br>0,0014 | 0,046<br>0,0018 | 0,055<br>0,0022 | 0,060<br>0,0024 | 0,070<br>0,0028 | 33 (25 — 53)<br>110 (83 — 170)       |
| S11 | E                                                                                 | 0,24<br>0,24 | 2,0<br>2,0 | 0,015<br>0,00060  | 0,018<br>0,00070 | 0,022<br>0,00085 | 0,025<br>0,0010  | 0,030<br>0,0012  | 0,036<br>0,0014  | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,090<br>0,0036 | 65 (50 — 100)<br>215 (170 — 320)     |
| S12 | E                                                                                 | 0,24<br>0,24 | 2,0<br>2,0 | 0,015<br>0,00060  | 0,018<br>0,00070 | 0,022<br>0,00085 | 0,025<br>0,0010  | 0,030<br>0,0012  | 0,036<br>0,0014  | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,090<br>0,0036 | 50 (39 — 82)<br>165 (130 — 260)      |
| S13 | E                                                                                 | 0,24<br>0,24 | 2,0<br>2,0 | 0,013<br>0,00050  | 0,016<br>0,00065 | 0,019<br>0,00075 | 0,022<br>0,00085 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,065<br>0,0026 | 0,075<br>0,0030 | 40 (31 — 65)<br>130 (110 — 210)      |
| H5  | M/A/D                                                                             | 0,15<br>0,15 | 2,0<br>2,0 | 0,011<br>0,00044  | 0,014<br>0,00055 | 0,017<br>0,00065 | 0,020<br>0,00080 | 0,022<br>0,00085 | 0,028<br>0,0011  | 0,034<br>0,0013 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,055<br>0,0022 | 0,065<br>0,0026 | 115 (86 — 140)<br>375 (290 — 450)    |
| H8  | M/A/D                                                                             | 0,15<br>0,15 | 2,0<br>2,0 | 0,0085<br>0,00034 | 0,011<br>0,00044 | 0,013<br>0,00050 | 0,015<br>0,00060 | 0,017<br>0,00065 | 0,022<br>0,00085 | 0,026<br>0,0010 | 0,032<br>0,0013 | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 120 (89 — 140)<br>395 (300 — 450)    |
| H11 | M/A/D                                                                             | 0,15<br>0,15 | 2,0<br>2,0 | 0,011<br>0,00044  | 0,014<br>0,00055 | 0,017<br>0,00065 | 0,020<br>0,00080 | 0,022<br>0,00085 | 0,028<br>0,0011  | 0,034<br>0,0013 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,055<br>0,0022 | 0,065<br>0,0026 | 145 (110 — 180)<br>475 (370 — 590)   |
| H12 | M/A/D                                                                             | 0,15<br>0,15 | 2,0<br>2,0 | 0,0085<br>0,00034 | 0,011<br>0,00044 | 0,013<br>0,00050 | 0,015<br>0,00060 | 0,017<br>0,00065 | 0,022<br>0,00085 | 0,026<br>0,0010 | 0,032<br>0,0013 | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 140 (110 — 170)<br>460 (370 — 550)   |
| H21 | M/A/D                                                                             | 0,15<br>0,15 | 2,0<br>2,0 | 0,0085<br>0,00034 | 0,011<br>0,00044 | 0,013<br>0,00050 | 0,015<br>0,00060 | 0,017<br>0,00065 | 0,022<br>0,00085 | 0,026<br>0,0010 | 0,032<br>0,0013 | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 120 (89 — 140)<br>395 (300 — 450)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cf/p

Graphite

X-Heads

Minimaster

## Cutting data – ST5551 Side milling advanced roughing $a_e/DC = 0,10$ – Inch

| SMG |  | $a_p/DC$   | $f_z$            |                  |                 |                 |                 |                 |                 |                 |                 |                 |                | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|------------------------------------|
|     |                                                                                   |            | 1/8              | 5/32             | 3/16            | 7/32            | 1/4             | 5/16            | 3/8             | 1/2             | 5/8             | 3/4             | 1              |                                    |
| P1  | M/A/D/E                                                                           | 2,0<br>2,0 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,19<br>0,0075 | 215 (170 — 260)<br>710 (560 — 850) |
| P2  | M/A/D/E                                                                           | 2,0<br>2,0 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,20<br>0,0080 | 210 (170 — 260)<br>690 (560 — 850) |
| P3  | M/A/D/E                                                                           | 2,0<br>2,0 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,19<br>0,0075 | 180 (140 — 220)<br>590 (460 — 720) |
| P4  | M/A/D/E                                                                           | 2,0<br>2,0 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,18<br>0,0070 | 160 (130 — 190)<br>520 (430 — 620) |
| P5  | M/A/D/E                                                                           | 2,0<br>2,0 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,18<br>0,0070 | 155 (120 — 180)<br>510 (400 — 590) |
| P6  | M/A/D/E                                                                           | 2,0<br>2,0 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,18<br>0,0070 | 170 (140 — 210)<br>560 (460 — 680) |
| P7  | M/A/D/E                                                                           | 2,0<br>2,0 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,18<br>0,0070 | 160 (130 — 200)<br>520 (430 — 650) |
| P8  | M/A/D/E                                                                           | 2,0<br>2,0 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,19<br>0,0075 | 155 (120 — 180)<br>510 (400 — 590) |
| P11 | M/A/D/E                                                                           | 2,0<br>2,0 | 0,022<br>0,00085 | 0,028<br>0,0011  | 0,034<br>0,0013 | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,15<br>0,0060 | 145 (130 — 160)<br>475 (430 — 520) |
| P12 | M/A/D/E                                                                           | 2,0<br>2,0 | 0,017<br>0,00065 | 0,020<br>0,00080 | 0,025<br>0,0010 | 0,030<br>0,0012 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,085<br>0,0034 | 0,10<br>0,0040 | 90 (78 — 100)<br>295 (260 — 320)   |
| M1  | E                                                                                 | 2,0<br>2,0 | 0,022<br>0,00085 | 0,028<br>0,0011  | 0,034<br>0,0013 | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,16<br>0,0065 | 170 (150 — 190)<br>560 (500 — 620) |
| M2  | E                                                                                 | 2,0<br>2,0 | 0,022<br>0,00085 | 0,028<br>0,0011  | 0,034<br>0,0013 | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,15<br>0,0060 | 140 (120 — 150)<br>460 (400 — 490) |
| M3  | E                                                                                 | 2,0<br>2,0 | 0,020<br>0,00080 | 0,024<br>0,00095 | 0,030<br>0,0012 | 0,034<br>0,0013 | 0,040<br>0,0016 | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040  | 0,12<br>0,0048 | 110 (93 — 120)<br>360 (310 — 390)  |
| M4  | E                                                                                 | 2,0<br>2,0 | 0,017<br>0,00065 | 0,022<br>0,00085 | 0,026<br>0,0010 | 0,030<br>0,0012 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,090<br>0,0036 | 0,10<br>0,0040 | 80 (71 — 94)<br>260 (240 — 300)    |
| M5  | E                                                                                 | 2,0<br>2,0 | 0,017<br>0,00065 | 0,022<br>0,00085 | 0,026<br>0,0010 | 0,030<br>0,0012 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,090<br>0,0036 | 0,10<br>0,0040 | 70 (59 — 79)<br>230 (200 — 250)    |
| K1  | E                                                                                 | 2,0<br>2,0 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,18<br>0,0070 | 180 (140 — 220)<br>590 (460 — 720) |
| K2  | E                                                                                 | 2,0<br>2,0 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,14<br>0,0055  | 0,17<br>0,0065 | 155 (120 — 190)<br>510 (400 — 620) |
| K3  | E                                                                                 | 2,0<br>2,0 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,14<br>0,0055  | 0,17<br>0,0065 | 135 (110 — 160)<br>445 (370 — 520) |
| K4  | E                                                                                 | 2,0<br>2,0 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,14<br>0,0055  | 0,17<br>0,0065 | 125 (97 — 160)<br>410 (320 — 520)  |
| K5  | E                                                                                 | 2,0<br>2,0 | 0,024<br>0,00095 | 0,030<br>0,0012  | 0,036<br>0,0014 | 0,042<br>0,0017 | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,15<br>0,0060 | 75 (58 — 96)<br>245 (200 — 310)    |
| K6  | E                                                                                 | 2,0<br>2,0 | 0,025<br>0,0010  | 0,032<br>0,0013  | 0,038<br>0,0015 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,14<br>0,0055  | 0,17<br>0,0065 | 130 (110 — 160)<br>425 (370 — 520) |
| K7  | E                                                                                 | 2,0<br>2,0 | 0,024<br>0,00095 | 0,030<br>0,0012  | 0,036<br>0,0014 | 0,042<br>0,0017 | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,15<br>0,0060 | 115 (88 — 140)<br>375 (290 — 450)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

Cutting data – ST5551 Side milling advanced roughing  $a_e/DC = 0,10$  – Inch

| SMG |  | $a_p/DC$ | $f_z$   |         |         |         |         |        |        |        |        |        |        | $v_c$              |
|-----|-----------------------------------------------------------------------------------|----------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------------------|
|     |                                                                                   |          | 1/8     | 5/32    | 3/16    | 7/32    | 1/4     | 5/16   | 3/8    | 1/2    | 5/8    | 3/4    | 1      |                    |
| N1  | E                                                                                 | 2,0      | 0,025   | 0,032   | 0,038   | 0,044   | 0,050   | 0,065  | 0,075  | 0,10   | 0,13   | 0,15   | 0,20   | 495 (380 — 610)    |
|     |                                                                                   | 2,0      | 0,0010  | 0,0013  | 0,0015  | 0,0017  | 0,0020  | 0,0026 | 0,0030 | 0,0040 | 0,0050 | 0,0060 | 0,0080 | 1625 (1300 — 2000) |
| N2  | E                                                                                 | 2,0      | 0,025   | 0,032   | 0,038   | 0,044   | 0,050   | 0,065  | 0,075  | 0,10   | 0,13   | 0,15   | 0,20   | 320 (250 — 390)    |
|     |                                                                                   | 2,0      | 0,0010  | 0,0013  | 0,0015  | 0,0017  | 0,0020  | 0,0026 | 0,0030 | 0,0040 | 0,0050 | 0,0060 | 0,0080 | 1050 (830 — 1200)  |
| N3  | E                                                                                 | 2,0      | 0,025   | 0,032   | 0,038   | 0,044   | 0,050   | 0,065  | 0,075  | 0,10   | 0,13   | 0,15   | 0,20   | 215 (170 — 260)    |
|     |                                                                                   | 2,0      | 0,0010  | 0,0013  | 0,0015  | 0,0017  | 0,0020  | 0,0026 | 0,0030 | 0,0040 | 0,0050 | 0,0060 | 0,0080 | 710 (560 — 850)    |
| N11 | E                                                                                 | 2,0      | 0,025   | 0,032   | 0,038   | 0,044   | 0,050   | 0,065  | 0,075  | 0,10   | 0,13   | 0,15   | 0,20   | 285 (220 — 350)    |
|     |                                                                                   | 2,0      | 0,0010  | 0,0013  | 0,0015  | 0,0017  | 0,0020  | 0,0026 | 0,0030 | 0,0040 | 0,0050 | 0,0060 | 0,0080 | 940 (730 — 1100)   |
| S1  | E                                                                                 | 2,0      | 0,017   | 0,022   | 0,026   | 0,030   | 0,034   | 0,044  | 0,050  | 0,070  | 0,085  | 0,095  | 0,11   | 55 (41 — 86)       |
|     |                                                                                   | 2,0      | 0,00065 | 0,00085 | 0,0010  | 0,0012  | 0,0013  | 0,0017 | 0,0020 | 0,0028 | 0,0034 | 0,0038 | 0,0044 | 180 (140 — 280)    |
| S2  | E                                                                                 | 2,0      | 0,017   | 0,022   | 0,026   | 0,030   | 0,034   | 0,044  | 0,050  | 0,070  | 0,085  | 0,095  | 0,11   | 43 (33 — 70)       |
|     |                                                                                   | 2,0      | 0,00065 | 0,00085 | 0,0010  | 0,0012  | 0,0013  | 0,0017 | 0,0020 | 0,0028 | 0,0034 | 0,0038 | 0,0044 | 140 (110 — 220)    |
| S3  | E                                                                                 | 2,0      | 0,017   | 0,022   | 0,025   | 0,030   | 0,034   | 0,042  | 0,050  | 0,065  | 0,080  | 0,085  | 0,10   | 37 (28 — 60)       |
|     |                                                                                   | 2,0      | 0,00065 | 0,00085 | 0,0010  | 0,0012  | 0,0013  | 0,0017 | 0,0020 | 0,0026 | 0,0032 | 0,0034 | 0,0040 | 120 (92 — 190)     |
| S11 | E                                                                                 | 2,0      | 0,017   | 0,022   | 0,026   | 0,030   | 0,034   | 0,044  | 0,050  | 0,070  | 0,085  | 0,10   | 0,13   | 75 (58 — 120)      |
|     |                                                                                   | 2,0      | 0,00065 | 0,00085 | 0,0010  | 0,0012  | 0,0013  | 0,0017 | 0,0020 | 0,0028 | 0,0034 | 0,0040 | 0,0050 | 245 (200 — 390)    |
| S12 | E                                                                                 | 2,0      | 0,017   | 0,022   | 0,026   | 0,030   | 0,034   | 0,044  | 0,050  | 0,070  | 0,085  | 0,10   | 0,13   | 60 (45 — 96)       |
|     |                                                                                   | 2,0      | 0,00065 | 0,00085 | 0,0010  | 0,0012  | 0,0013  | 0,0017 | 0,0020 | 0,0028 | 0,0034 | 0,0040 | 0,0050 | 195 (150 — 310)    |
| S13 | E                                                                                 | 2,0      | 0,017   | 0,022   | 0,026   | 0,030   | 0,034   | 0,044  | 0,050  | 0,070  | 0,085  | 0,095  | 0,11   | 46 (35 — 74)       |
|     |                                                                                   | 2,0      | 0,00065 | 0,00085 | 0,0010  | 0,0012  | 0,0013  | 0,0017 | 0,0020 | 0,0028 | 0,0034 | 0,0038 | 0,0044 | 150 (120 — 240)    |
| H5  | M/A/D                                                                             | 2,0      | 0,013   | 0,017   | 0,020   | 0,024   | 0,026   | 0,034  | 0,040  | 0,050  | 0,060  | 0,070  | 0,080  | 120 (91 — 150)     |
|     |                                                                                   | 2,0      | 0,00050 | 0,00065 | 0,00080 | 0,00095 | 0,0010  | 0,0013 | 0,0016 | 0,0020 | 0,0024 | 0,0028 | 0,0032 | 395 (300 — 490)    |
| H8  | M/A/D                                                                             | 2,0      | 0,010   | 0,013   | 0,015   | 0,018   | 0,020   | 0,025  | 0,030  | 0,040  | 0,046  | 0,050  | 0,060  | 125 (94 — 150)     |
|     |                                                                                   | 2,0      | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010 | 0,0012 | 0,0016 | 0,0018 | 0,0020 | 0,0024 | 410 (310 — 490)    |
| H11 | M/A/D                                                                             | 2,0      | 0,013   | 0,017   | 0,020   | 0,024   | 0,026   | 0,034  | 0,040  | 0,050  | 0,060  | 0,070  | 0,080  | 155 (120 — 190)    |
|     |                                                                                   | 2,0      | 0,00050 | 0,00065 | 0,00080 | 0,00095 | 0,0010  | 0,0013 | 0,0016 | 0,0020 | 0,0024 | 0,0028 | 0,0032 | 510 (400 — 620)    |
| H12 | M/A/D                                                                             | 2,0      | 0,010   | 0,013   | 0,015   | 0,018   | 0,020   | 0,025  | 0,030  | 0,040  | 0,046  | 0,050  | 0,060  | 145 (110 — 180)    |
|     |                                                                                   | 2,0      | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010 | 0,0012 | 0,0016 | 0,0018 | 0,0020 | 0,0024 | 475 (370 — 590)    |
| H21 | M/A/D                                                                             | 2,0      | 0,010   | 0,013   | 0,015   | 0,018   | 0,020   | 0,025  | 0,030  | 0,040  | 0,046  | 0,050  | 0,060  | 125 (94 — 150)     |
|     |                                                                                   | 2,0      | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010 | 0,0012 | 0,0016 | 0,0018 | 0,0020 | 0,0024 | 410 (310 — 490)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

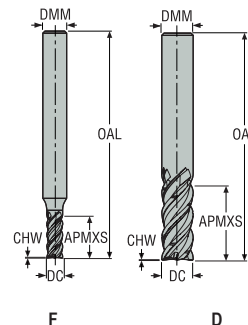
Graphite

X-Heads

Minimaster

## JS564

Advanced roughing – Universal – Square – 4 Flutes – Cylindrical – Chamfer



—Tolerances:

—DMM= h5

—DC= e7

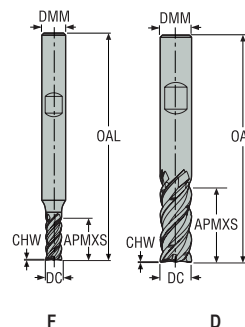
—Reground possible if DC is  $\geq \varnothing 8$ 


| Designation          | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|----------------|------|------|-------|-------|-------|-------|-------------|----------------|
|                      |             |              |            |                | mm   | mm   | mm    | mm    | mm    |       |             |                |
| JS564030F2C.0Z4C-NXT | 03067338    | 2            | F          | ■              | 3,0  | 6,0  | 7,0   | 57,0  | 0,04  | 4     | Cylindrical | ■              |
| JS564040F2C.0Z4C-NXT | 03067339    | 2            | F          | ■              | 4,0  | 6,0  | 10,0  | 57,0  | 0,05  | 4     | Cylindrical | ■              |
| JS564050F2C.0Z4C-NXT | 03067340    | 2            | F          | ■              | 5,0  | 6,0  | 12,5  | 57,0  | 0,06  | 4     | Cylindrical | ■              |
| JS564060D2C.0Z4C-NXT | 03067341    | 2            | D          | ■              | 6,0  | 6,0  | 15,0  | 57,0  | 0,075 | 4     | Cylindrical | ■              |
| JS564080D2C.0Z4C-NXT | 03067342    | 2            | D          | ■              | 8,0  | 8,0  | 20,0  | 63,0  | 0,1   | 4     | Cylindrical | ■              |
| JS564100D2C.0Z4C-NXT | 03067343    | 2            | D          | ■              | 10,0 | 10,0 | 25,0  | 72,0  | 0,125 | 4     | Cylindrical | ■              |
| JS564120D2C.0Z4C-NXT | 03067344    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0  | 0,15  | 4     | Cylindrical | ■              |
| JS564160D2C.0Z4C-NXT | 03067345    | 2            | D          | ■              | 16,0 | 16,0 | 40,0  | 99,0  | 0,2   | 4     | Cylindrical | ■              |
| JS564200D2C.0Z4C-NXT | 03067346    | 2            | D          | ■              | 20,0 | 20,0 | 50,0  | 114,0 | 0,25  | 4     | Cylindrical | ■              |
| JS564060D3C.0Z4C-NXT | 03067347    | 3            | D          | ■              | 6,0  | 6,0  | 23,0  | 64,0  | 0,075 | 4     | Cylindrical | ■              |
| JS564080D3C.0Z4C-NXT | 03067348    | 3            | D          | ■              | 8,0  | 8,0  | 32,0  | 74,0  | 0,1   | 4     | Cylindrical | ■              |
| JS564100D3C.0Z4C-NXT | 03067349    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 88,0  | 0,125 | 4     | Cylindrical | ■              |
| JS564120D3C.0Z4C-NXT | 03067350    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 99,0  | 0,15  | 4     | Cylindrical | ■              |
| JS564160D3C.0Z4C-NXT | 03067351    | 3            | D          | ■              | 16,0 | 16,0 | 55,0  | 114,0 | 0,2   | 4     | Cylindrical | ■              |
| JS564200D3C.0Z4C-NXT | 03067352    | 3            | D          | ■              | 20,0 | 20,0 | 65,0  | 126,0 | 0,25  | 4     | Cylindrical | ■              |
| JS564060D4C.0Z4C-NXT | 10273179    | 4            | D          | ■              | 6,0  | 6,0  | 30,0  | 80,0  | 0,075 | 4     | Cylindrical | ■              |
| JS564080D4C.0Z4C-NXT | 10273180    | 4            | D          | ■              | 8,0  | 8,0  | 40,0  | 85,0  | 0,1   | 4     | Cylindrical | ■              |
| JS564100D4C.0Z4C-NXT | 10273181    | 4            | D          | ■              | 10,0 | 10,0 | 50,0  | 100,0 | 0,125 | 4     | Cylindrical | ■              |
| JS564120D4C.0Z4C-NXT | 10273182    | 4            | D          | ■              | 12,0 | 12,0 | 60,0  | 115,0 | 0,15  | 4     | Cylindrical | ■              |
| JS564160D4C.0Z4C-NXT | 10273183    | 4            | D          | ■              | 16,0 | 16,0 | 80,0  | 150,0 | 0,2   | 4     | Cylindrical | ■              |
| JS564200D4C.0Z4C-NXT | 10273184    | 4            | D          | ■              | 20,0 | 20,0 | 100,0 | 175,0 | 0,25  | 4     | Cylindrical | ■              |
| JS564250D4C.0Z4C-NXT | 10273185    | 4            | D          | ■              | 25,0 | 25,0 | 125,0 | 205,0 | 0,3   | 4     | Cylindrical | ■              |

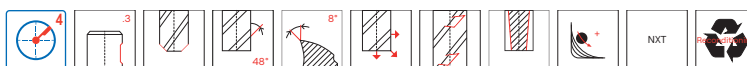
■ Stocked standard.

## JS564

Advanced roughing – Universal – Square – 4 Flutes – Weldon – Chamfer



- Tolerances:
- DMM= h5
- DC= e7
- Regrind possible if DC is  $\geq \varnothing 8$



| Designation          | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank  | Stock standard |
|----------------------|-------------|--------------|------------|----------------|------|------|-------|-------|-------|-------|--------|----------------|
|                      |             |              |            |                | mm   | mm   | mm    | mm    | mm    |       |        |                |
| JS564030F2C.3Z4C-NXT | 03067353    | 2            | F          | ■              | 3,0  | 6,0  | 7,0   | 57,0  | 0,04  | 4     | Weldon | ■              |
| JS564040F2C.3Z4C-NXT | 03067354    | 2            | F          | ■              | 4,0  | 6,0  | 10,0  | 57,0  | 0,05  | 4     | Weldon | ■              |
| JS564050F2C.3Z4C-NXT | 03067355    | 2            | F          | ■              | 5,0  | 6,0  | 12,5  | 57,0  | 0,06  | 4     | Weldon | ■              |
| JS564060D2C.3Z4C-NXT | 03067356    | 2            | D          | ■              | 6,0  | 6,0  | 15,0  | 57,0  | 0,075 | 4     | Weldon | ■              |
| JS564080D2C.3Z4C-NXT | 03067357    | 2            | D          | ■              | 8,0  | 8,0  | 20,0  | 63,0  | 0,1   | 4     | Weldon | ■              |
| JS564100D2C.3Z4C-NXT | 03067358    | 2            | D          | ■              | 10,0 | 10,0 | 25,0  | 72,0  | 0,125 | 4     | Weldon | ■              |
| JS564120D2C.3Z4C-NXT | 03067359    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0  | 0,15  | 4     | Weldon | ■              |
| JS564160D2C.3Z4C-NXT | 03067360    | 2            | D          | ■              | 16,0 | 16,0 | 40,0  | 99,0  | 0,2   | 4     | Weldon | ■              |
| JS564200D2C.3Z4C-NXT | 03067361    | 2            | D          | ■              | 20,0 | 20,0 | 50,0  | 114,0 | 0,25  | 4     | Weldon | ■              |
| JS564060D3C.3Z4C-NXT | 03067362    | 3            | D          | ■              | 6,0  | 6,0  | 23,0  | 64,0  | 0,075 | 4     | Weldon | ■              |
| JS564080D3C.3Z4C-NXT | 03067363    | 3            | D          | ■              | 8,0  | 8,0  | 32,0  | 74,0  | 0,1   | 4     | Weldon | ■              |
| JS564100D3C.3Z4C-NXT | 03067364    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 88,0  | 0,125 | 4     | Weldon | ■              |
| JS564120D3C.3Z4C-NXT | 03067365    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 99,0  | 0,15  | 4     | Weldon | ■              |
| JS564160D3C.3Z4C-NXT | 03067366    | 3            | D          | ■              | 16,0 | 16,0 | 55,0  | 114,0 | 0,2   | 4     | Weldon | ■              |
| JS564200D3C.3Z4C-NXT | 03067367    | 3            | D          | ■              | 20,0 | 20,0 | 65,0  | 126,0 | 0,25  | 4     | Weldon | ■              |
| JS564060D4C.3Z4C-NXT | 10273186    | 4            | D          | ■              | 6,0  | 6,0  | 30,0  | 80,0  | 0,075 | 4     | Weldon | □              |
| JS564080D4C.3Z4C-NXT | 10273187    | 4            | D          | ■              | 8,0  | 8,0  | 40,0  | 85,0  | 0,1   | 4     | Weldon | □              |
| JS564100D4C.3Z4C-NXT | 10273188    | 4            | D          | ■              | 10,0 | 10,0 | 50,0  | 100,0 | 0,125 | 4     | Weldon | □              |
| JS564120D4C.3Z4C-NXT | 10273189    | 4            | D          | ■              | 12,0 | 12,0 | 60,0  | 115,0 | 0,15  | 4     | Weldon | □              |
| JS564160D4C.3Z4C-NXT | 10273190    | 4            | D          | ■              | 16,0 | 16,0 | 80,0  | 150,0 | 0,2   | 4     | Weldon | □              |
| JS564200D4C.3Z4C-NXT | 10273191    | 4            | D          | ■              | 20,0 | 20,0 | 100,0 | 175,0 | 0,25  | 4     | Weldon | □              |
| JS564250D4C.3Z4C-NXT | 10273192    | 4            | D          | ■              | 25,0 | 25,0 | 125,0 | 205,0 | 0,3   | 4     | Weldon | ■              |

■ Stocked standard.

## Cutting data – JS564 Side milling advanced roughing

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$           |                 |                 |                 |                 |                |                |                | $v_c$                                |
|-----|-----------------------------------------------------------------------------------|----------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|--------------------------------------|
|     |                                                                                   |                |            | 4               | 5               | 6               | 8               | 10              | 12             | 16             | 20             |                                      |
| P1  | E/M/A/D                                                                           | 0.150<br>0,150 | 2.4<br>2,4 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.11<br>0,0044  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.18<br>0,0070 | 305 (270 — 340)<br>1000 (890 — 1100) |
| P2  | E/M/A/D                                                                           | 0.150<br>0,150 | 2.4<br>2,4 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.11<br>0,0044  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.18<br>0,0070 | 295 (260 — 330)<br>970 (860 — 1000)  |
| P3  | E/M/A/D                                                                           | 0.150<br>0,150 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 260 (230 — 290)<br>850 (760 — 950)   |
| P4  | E/M/A/D                                                                           | 0.150<br>0,150 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 230 (200 — 250)<br>750 (660 — 820)   |
| P5  | E/M/A/D                                                                           | 0.150<br>0,150 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 215 (190 — 240)<br>710 (630 — 780)   |
| P6  | E/M/A/D                                                                           | 0.150<br>0,150 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 240 (210 — 270)<br>790 (690 — 880)   |
| P7  | E/M/A/D                                                                           | 0.150<br>0,150 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 230 (200 — 250)<br>750 (660 — 820)   |
| P8  | E/M/A/D                                                                           | 0.150<br>0,150 | 2.4<br>2,4 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.18<br>0,0070 | 215 (190 — 240)<br>710 (630 — 780)   |
| P11 | E/M/A/D                                                                           | 0.150<br>0,150 | 2.4<br>2,4 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065 | 0.22<br>0,0085 | 0.25<br>0,010  | 200 (180 — 220)<br>660 (600 — 720)   |
| P12 | E/M/A/D                                                                           | 0.150<br>0,150 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 130 (120 — 140)<br>425 (400 — 450)   |
| M1  | E                                                                                 | 0.150<br>0,150 | 2.4<br>2,4 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.19<br>0,0075 | 195 (170 — 210)<br>640 (560 — 680)   |
| M2  | E                                                                                 | 0.150<br>0,150 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 160 (140 — 170)<br>520 (460 — 550)   |
| M3  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 130 (110 — 140)<br>425 (370 — 450)   |
| M4  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 130 (110 — 140)<br>425 (370 — 450)   |
| M5  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 110 (92 — 120)<br>360 (310 — 390)    |
| K1  | E                                                                                 | 0.150<br>0,150 | 2.4<br>2,4 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.19<br>0,0075 | 260 (230 — 290)<br>850 (760 — 950)   |
| K2  | E                                                                                 | 0.150<br>0,150 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 230 (200 — 250)<br>750 (660 — 820)   |
| K3  | E                                                                                 | 0.150<br>0,150 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 195 (170 — 210)<br>640 (560 — 680)   |
| K4  | E                                                                                 | 0.150<br>0,150 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 185 (170 — 200)<br>610 (560 — 650)   |
| K5  | E                                                                                 | 0.150<br>0,150 | 2.4<br>2,4 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044 | 0.13<br>0,0050 | 0.15<br>0,0060 | 115 (99 — 120)<br>375 (330 — 390)    |
| K6  | E                                                                                 | 0.150<br>0,150 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 165 (150 — 180)<br>540 (500 — 590)   |
| K7  | E                                                                                 | 0.150<br>0,150 | 2.4<br>2,4 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044 | 0.13<br>0,0050 | 0.15<br>0,0060 | 145 (130 — 160)<br>475 (430 — 520)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – JS564 Side milling advanced roughing

| SMG |  | $a_p$ /DC        | $a_p$ /DC  | $f_z$            |                  |                 |                 |                 |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|------------------|------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                  |            | 4                | 5                | 6               | 8               | 10              | 12              | 16              | 20              |                                       |
| N1  | E                                                                                 | 0.150<br>0,150   | 2.4<br>2,4 | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 700 (600 — 790)<br>2300 (2000 — 2500) |
| N2  | E                                                                                 | 0.150<br>0,150   | 2.4<br>2,4 | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 450 (390 — 510)<br>1475 (1300 — 1600) |
| N3  | E                                                                                 | 0.100<br>0,100   | 2.4<br>2,4 | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 500 (400 — 590)<br>1650 (1400 — 1900) |
| N11 | E                                                                                 | 0.150<br>0,150   | 2.4<br>2,4 | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 350 (300 — 390)<br>1150 (990 — 1200)  |
| S1  | E                                                                                 | 0.0300<br>0,0300 | 2.4<br>2,4 | 0.030<br>0,0012  | 0.038<br>0,0015  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 60 (37 — 86)<br>195 (130 — 280)       |
| S2  | E                                                                                 | 0.0300<br>0,0300 | 2.4<br>2,4 | 0.030<br>0,0012  | 0.038<br>0,0015  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 50 (30 — 69)<br>165 (99 — 220)        |
| S3  | E                                                                                 | 0.0300<br>0,0300 | 2.4<br>2,4 | 0.028<br>0,0011  | 0.034<br>0,0013  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 43 (26 — 60)<br>140 (86 — 190)        |
| S11 | E                                                                                 | 0.0800<br>0,0800 | 2.4<br>2,4 | 0.028<br>0,0011  | 0.034<br>0,0013  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 160 (140 — 180)<br>520 (460 — 590)    |
| S12 | E                                                                                 | 0.0800<br>0,0800 | 2.4<br>2,4 | 0.028<br>0,0011  | 0.034<br>0,0013  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 125 (110 — 140)<br>410 (370 — 450)    |
| S13 | E                                                                                 | 0.0800<br>0,0800 | 2.4<br>2,4 | 0.028<br>0,0011  | 0.034<br>0,0013  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 125 (110 — 140)<br>410 (370 — 450)    |
| H8  | M/A/D                                                                             | 0.0500<br>0,0500 | 2.4<br>2,4 | 0.022<br>0,00085 | 0.026<br>0,0010  | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.090<br>0,0036 | 160 (140 — 180)<br>520 (460 — 590)    |
| H21 | M/A/D                                                                             | 0.0500<br>0,0500 | 2.4<br>2,4 | 0.022<br>0,00085 | 0.026<br>0,0010  | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.090<br>0,0036 | 160 (140 — 180)<br>520 (460 — 590)    |
| H31 | M/A/D                                                                             | 0.0500<br>0,0500 | 2.4<br>2,4 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.080<br>0,0032 | 125 (110 — 140)<br>410 (370 — 450)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_g$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

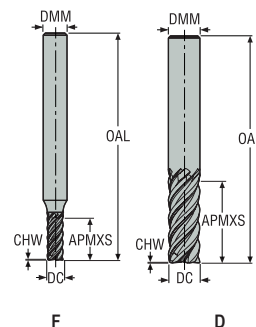
Plastic and cfrp

Graphite

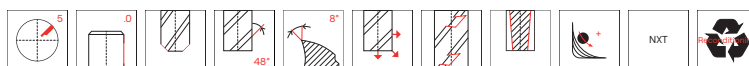
X-Heads

Minimaster

Advanced roughing – Universal – Square – 5 Flutes – Cylindrical – Chamfer



- Regrind possible if DC is  $\geq \emptyset 8$



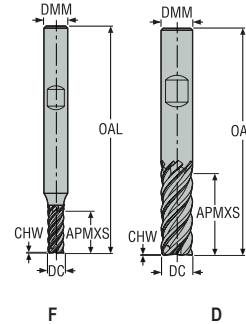
| Designation          | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|----------------|------|------|-------|-------|-------|-------|-------------|----------------|
|                      |             |              |            |                | mm   | mm   | mm    | mm    | mm    |       |             |                |
| JS565040F2C.0Z5-NXT  | 03067369    | 2            | F          | —              | 4,0  | 6,0  | 10,0  | 57,0  | 0,05  | 5     | Cylindrical | ■              |
| JS565040F2C.0Z5C-NXT | 03067378    | 2            | F          | ■              | 4,0  | 6,0  | 10,0  | 57,0  | 0,05  | 5     | Cylindrical | ■              |
| JS565050F2C.0Z5-NXT  | 03067370    | 2            | F          | —              | 5,0  | 6,0  | 12,5  | 57,0  | 0,06  | 5     | Cylindrical | ■              |
| JS565050F2C.0Z5C-NXT | 03067379    | 2            | F          | ■              | 5,0  | 6,0  | 12,5  | 57,0  | 0,06  | 5     | Cylindrical | ■              |
| JS565060D2C.0Z5-NXT  | 03067371    | 2            | D          | —              | 6,0  | 6,0  | 15,0  | 57,0  | 0,075 | 5     | Cylindrical | ■              |
| JS565060D2C.0Z5C-NXT | 03067380    | 2            | D          | ■              | 6,0  | 6,0  | 15,0  | 57,0  | 0,075 | 5     | Cylindrical | ■              |
| JS565080D2C.0Z5-NXT  | 03067372    | 2            | D          | —              | 8,0  | 8,0  | 20,0  | 63,0  | 0,1   | 5     | Cylindrical | ■              |
| JS565080D2C.0Z5C-NXT | 03067381    | 2            | D          | ■              | 8,0  | 8,0  | 20,0  | 63,0  | 0,1   | 5     | Cylindrical | ■              |
| JS565100D2C.0Z5-NXT  | 03067373    | 2            | D          | —              | 10,0 | 10,0 | 25,0  | 72,0  | 0,125 | 5     | Cylindrical | ■              |
| JS565100D2C.0Z5C-NXT | 03067382    | 2            | D          | ■              | 10,0 | 10,0 | 25,0  | 72,0  | 0,125 | 5     | Cylindrical | ■              |
| JS565120D2C.0Z5-NXT  | 03067374    | 2            | D          | —              | 12,0 | 12,0 | 30,0  | 83,0  | 0,15  | 5     | Cylindrical | ■              |
| JS565120D2C.0Z5C-NXT | 03067383    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0  | 0,15  | 5     | Cylindrical | ■              |
| JS565160D2C.0Z5-NXT  | 03067375    | 2            | D          | —              | 16,0 | 16,0 | 40,0  | 99,0  | 0,2   | 5     | Cylindrical | ■              |
| JS565160D2C.0Z5C-NXT | 03067384    | 2            | D          | ■              | 16,0 | 16,0 | 40,0  | 99,0  | 0,2   | 5     | Cylindrical | ■              |
| JS565200D2C.0Z5-NXT  | 03067376    | 2            | D          | —              | 20,0 | 20,0 | 50,0  | 114,0 | 0,25  | 5     | Cylindrical | ■              |
| JS565200D2C.0Z5C-NXT | 03067385    | 2            | D          | ■              | 20,0 | 20,0 | 50,0  | 114,0 | 0,25  | 5     | Cylindrical | ■              |
| JS565060D3C.0Z5C-NXT | 03067386    | 3            | D          | ■              | 6,0  | 6,0  | 23,0  | 64,0  | 0,075 | 5     | Cylindrical | ■              |
| JS565080D3C.0Z5C-NXT | 03067387    | 3            | D          | ■              | 8,0  | 8,0  | 32,0  | 74,0  | 0,1   | 5     | Cylindrical | ■              |
| JS565100D3C.0Z5C-NXT | 03067388    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 88,0  | 0,125 | 5     | Cylindrical | ■              |
| JS565120D3C.0Z5C-NXT | 03067389    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 99,0  | 0,15  | 5     | Cylindrical | ■              |
| JS565160D3C.0Z5C-NXT | 03067390    | 3            | D          | ■              | 16,0 | 16,0 | 55,0  | 114,0 | 0,2   | 5     | Cylindrical | ■              |
| JS565200D3C.0Z5C-NXT | 03067391    | 3            | D          | ■              | 20,0 | 20,0 | 65,0  | 126,0 | 0,25  | 5     | Cylindrical | ■              |
| JS565060D4C.0Z5C-NXT | 10273193    | 4            | D          | ■              | 6,0  | 6,0  | 30,0  | 80,0  | 0,075 | 5     | Cylindrical | ■              |
| JS565080D4C.0Z5C-NXT | 10273194    | 4            | D          | ■              | 8,0  | 8,0  | 40,0  | 85,0  | 0,1   | 5     | Cylindrical | ■              |
| JS565100D4C.0Z5C-NXT | 10273195    | 4            | D          | ■              | 10,0 | 10,0 | 50,0  | 100,0 | 0,125 | 5     | Cylindrical | ■              |
| JS565120D4C.0Z5C-NXT | 10273196    | 4            | D          | ■              | 12,0 | 12,0 | 60,0  | 115,0 | 0,15  | 5     | Cylindrical | ■              |
| JS565160D4C.0Z5C-NXT | 10273197    | 4            | D          | ■              | 16,0 | 16,0 | 80,0  | 150,0 | 0,2   | 5     | Cylindrical | ■              |
| JS565200D4C.0Z5C-NXT | 10273198    | 4            | D          | ■              | 20,0 | 20,0 | 100,0 | 175,0 | 0,25  | 5     | Cylindrical | ■              |
| JS565250D4C.0Z5C-NXT | 10273199    | 4            | D          | ■              | 25,0 | 25,0 | 125,0 | 205,0 | 0,3   | 5     | Cylindrical | ■              |

■ Stocked standard.

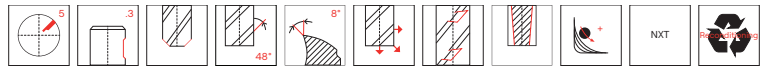


## JS565

Advanced roughing – Universal – Square – 5 Flutes – Weldon – Chamfer



- Tolerances:
- DMM= h5
- DC= e7
- Regrind possible if DC is  $\geq \varnothing 8$



| Designation          | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank  | Stock standard |
|----------------------|-------------|--------------|------------|----------------|------|------|-------|-------|-------|-------|--------|----------------|
| JS565040F2C.3Z5-NXT  | 03067393    | 2            | F          | —              | 4,0  | 6,0  | 10,0  | 57,0  | 0,05  | 5     | Weldon | ■              |
| JS565040F2C.3Z5C-NXT | 03067402    | 2            | F          | ■              | 4,0  | 6,0  | 10,0  | 57,0  | 0,05  | 5     | Weldon | ■              |
| JS565050F2C.3Z5-NXT  | 03067394    | 2            | F          | —              | 5,0  | 6,0  | 12,5  | 57,0  | 0,06  | 5     | Weldon | ■              |
| JS565050F2C.3Z5C-NXT | 03067403    | 2            | F          | ■              | 5,0  | 6,0  | 12,5  | 57,0  | 0,06  | 5     | Weldon | ■              |
| JS565060D2C.3Z5-NXT  | 03067395    | 2            | D          | —              | 6,0  | 6,0  | 15,0  | 57,0  | 0,075 | 5     | Weldon | ■              |
| JS565060D2C.3Z5C-NXT | 03067404    | 2            | D          | ■              | 6,0  | 6,0  | 15,0  | 57,0  | 0,075 | 5     | Weldon | ■              |
| JS565080D2C.3Z5-NXT  | 03067396    | 2            | D          | —              | 8,0  | 8,0  | 20,0  | 63,0  | 0,1   | 5     | Weldon | ■              |
| JS565080D2C.3Z5C-NXT | 03067405    | 2            | D          | ■              | 8,0  | 8,0  | 20,0  | 63,0  | 0,1   | 5     | Weldon | ■              |
| JS565100D2C.3Z5-NXT  | 03067397    | 2            | D          | —              | 10,0 | 10,0 | 25,0  | 72,0  | 0,125 | 5     | Weldon | ■              |
| JS565100D2C.3Z5C-NXT | 03067406    | 2            | D          | ■              | 10,0 | 10,0 | 25,0  | 72,0  | 0,125 | 5     | Weldon | ■              |
| JS565120D2C.3Z5-NXT  | 03067398    | 2            | D          | —              | 12,0 | 12,0 | 30,0  | 83,0  | 0,15  | 5     | Weldon | ■              |
| JS565120D2C.3Z5C-NXT | 03067407    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0  | 0,15  | 5     | Weldon | ■              |
| JS565160D2C.3Z5-NXT  | 03067399    | 2            | D          | —              | 16,0 | 16,0 | 40,0  | 99,0  | 0,2   | 5     | Weldon | ■              |
| JS565160D2C.3Z5C-NXT | 03067408    | 2            | D          | ■              | 16,0 | 16,0 | 40,0  | 99,0  | 0,2   | 5     | Weldon | ■              |
| JS565200D2C.3Z5-NXT  | 03067400    | 2            | D          | —              | 20,0 | 20,0 | 50,0  | 114,0 | 0,25  | 5     | Weldon | ■              |
| JS565200D2C.3Z5C-NXT | 03067409    | 2            | D          | ■              | 20,0 | 20,0 | 50,0  | 114,0 | 0,25  | 5     | Weldon | ■              |
| JS565060D3C.3Z5C-NXT | 03067410    | 3            | D          | ■              | 6,0  | 6,0  | 23,0  | 64,0  | 0,075 | 5     | Weldon | ■              |
| JS565080D3C.3Z5C-NXT | 03067411    | 3            | D          | ■              | 8,0  | 8,0  | 32,0  | 74,0  | 0,1   | 5     | Weldon | ■              |
| JS565100D3C.3Z5C-NXT | 03067412    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 88,0  | 0,125 | 5     | Weldon | ■              |
| JS565120D3C.3Z5C-NXT | 03067413    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 99,0  | 0,15  | 5     | Weldon | ■              |
| JS565160D3C.3Z5C-NXT | 03067414    | 3            | D          | ■              | 16,0 | 16,0 | 55,0  | 114,0 | 0,2   | 5     | Weldon | ■              |
| JS565200D3C.3Z5C-NXT | 03067415    | 3            | D          | ■              | 20,0 | 20,0 | 65,0  | 126,0 | 0,25  | 5     | Weldon | ■              |
| JS565060D4C.3Z5C-NXT | 10273200    | 4            | D          | ■              | 6,0  | 6,0  | 30,0  | 80,0  | 0,075 | 5     | Weldon | □              |
| JS565080D4C.3Z5C-NXT | 10273201    | 4            | D          | ■              | 8,0  | 8,0  | 40,0  | 85,0  | 0,1   | 5     | Weldon | □              |
| JS565100D4C.3Z5C-NXT | 10273202    | 4            | D          | ■              | 10,0 | 10,0 | 50,0  | 100,0 | 0,125 | 5     | Weldon | □              |
| JS565120D4C.3Z5C-NXT | 10273203    | 4            | D          | ■              | 12,0 | 12,0 | 60,0  | 115,0 | 0,15  | 5     | Weldon | □              |
| JS565160D4C.3Z5C-NXT | 10273204    | 4            | D          | ■              | 16,0 | 16,0 | 80,0  | 150,0 | 0,2   | 5     | Weldon | □              |
| JS565200D4C.3Z5C-NXT | 10273205    | 4            | D          | ■              | 20,0 | 20,0 | 100,0 | 175,0 | 0,25  | 5     | Weldon | □              |
| JS565250D4C.3Z5C-NXT | 10273206    | 4            | D          | ■              | 25,0 | 25,0 | 125,0 | 205,0 | 0,3   | 5     | Weldon | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfpr

Graphite

X-Heads

Minimaster

## Cutting data – JS565 Side milling advanced roughing

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$           |                 |                 |                 |                |                |                |                | $v_c$                                |
|-----|-----------------------------------------------------------------------------------|----------------|------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|--------------------------------------|
|     |                                                                                   |                |            | 4               | 5               | 6               | 8               | 10             | 12             | 16             | 20             |                                      |
| P1  | E/M/A/D                                                                           | 0.100<br>0,100 | 2.4<br>2,4 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.10<br>0,0040  | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.19<br>0,0075 | 0.22<br>0,0085 | 325 (270 — 340)<br>1075 (890 — 1100) |
| P2  | E/M/A/D                                                                           | 0.100<br>0,100 | 2.4<br>2,4 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.19<br>0,0075 | 0.22<br>0,0085 | 315 (260 — 330)<br>1025 (860 — 1000) |
| P3  | E/M/A/D                                                                           | 0.100<br>0,100 | 2.4<br>2,4 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.20<br>0,0080 | 280 (230 — 290)<br>920 (760 — 950)   |
| P4  | E/M/A/D                                                                           | 0.100<br>0,100 | 2.4<br>2,4 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.20<br>0,0080 | 245 (200 — 250)<br>800 (660 — 820)   |
| P5  | E/M/A/D                                                                           | 0.100<br>0,100 | 2.4<br>2,4 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.20<br>0,0080 | 230 (190 — 240)<br>750 (630 — 780)   |
| P6  | E/M/A/D                                                                           | 0.100<br>0,100 | 2.4<br>2,4 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 260 (210 — 270)<br>850 (690 — 880)   |
| P7  | E/M/A/D                                                                           | 0.100<br>0,100 | 2.4<br>2,4 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 245 (200 — 250)<br>800 (660 — 820)   |
| P8  | E/M/A/D                                                                           | 0.100<br>0,100 | 2.4<br>2,4 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.18<br>0,0070 | 0.22<br>0,0085 | 230 (190 — 240)<br>750 (630 — 780)   |
| P11 | E/M/A/D                                                                           | 0.100<br>0,100 | 2.4<br>2,4 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060 | 0.18<br>0,0070 | 0.24<br>0,0095 | 0.30<br>0,12   | 225 (190 — 230)<br>740 (630 — 750)   |
| P12 | E/M/A/D                                                                           | 0.100<br>0,100 | 2.4<br>2,4 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.20<br>0,0080 | 140 (120 — 140)<br>460 (400 — 450)   |
| M1  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.11<br>0,0044  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.19<br>0,0075 | 0.22<br>0,0085 | 205 (180 — 210)<br>670 (600 — 680)   |
| M2  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.20<br>0,0080 | 170 (140 — 170)<br>560 (460 — 550)   |
| M3  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 130 (110 — 140)<br>425 (370 — 450)   |
| M4  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 130 (110 — 140)<br>425 (370 — 450)   |
| M5  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 110 (92 — 120)<br>360 (310 — 390)    |
| K1  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.11<br>0,0044  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.19<br>0,0075 | 0.22<br>0,0085 | 275 (230 — 290)<br>900 (760 — 950)   |
| K2  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.20<br>0,0080 | 245 (200 — 250)<br>800 (660 — 820)   |
| K3  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.20<br>0,0080 | 205 (170 — 210)<br>670 (560 — 680)   |
| K4  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.20<br>0,0080 | 200 (170 — 200)<br>660 (560 — 650)   |
| K5  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.11<br>0,0044 | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.18<br>0,0070 | 120 (98 — 120)<br>395 (330 — 390)    |
| K6  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.20<br>0,0080 | 175 (150 — 180)<br>570 (500 — 590)   |
| K7  | E                                                                                 | 0.100<br>0,100 | 2.4<br>2,4 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.11<br>0,0044 | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.18<br>0,0070 | 155 (130 — 160)<br>510 (430 — 520)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – JS565 Side milling advanced roughing

| SMG |       | $a_p$ /DC        | $a_p$ /DC  | $f_z$            |                 |                 |                 |                 |                 |                 |                 | $v_c$                                 |
|-----|-------|------------------|------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |       |                  |            | 4                | 5               | 6               | 8               | 10              | 12              | 16              | 20              |                                       |
| N1  | E     | 0.100<br>0,100   | 2.4<br>2,4 | 0.048<br>0,0019  | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.18<br>0,0070  | 0.20<br>0,0080  | 740 (600 — 790)<br>2425 (2000 — 2500) |
| N2  | E     | 0.100<br>0,100   | 2.4<br>2,4 | 0.048<br>0,0019  | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.18<br>0,0070  | 0.20<br>0,0080  | 475 (390 — 510)<br>1550 (1300 — 1600) |
| N3  | E     | 0.100<br>0,100   | 2.4<br>2,4 | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 500 (400 — 590)<br>1650 (1400 — 1900) |
| N11 | E     | 0.100<br>0,100   | 2.4<br>2,4 | 0.048<br>0,0019  | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.18<br>0,0070  | 0.20<br>0,0080  | 370 (300 — 390)<br>1225 (990 — 1200)  |
| S1  | E     | 0.0300<br>0,0300 | 2.4<br>2,4 | 0.028<br>0,0011  | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 60 (38 — 86)<br>195 (130 — 280)       |
| S2  | E     | 0.0300<br>0,0300 | 2.4<br>2,4 | 0.028<br>0,0011  | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 50 (30 — 70)<br>165 (99 — 220)        |
| S3  | E     | 0.0300<br>0,0300 | 2.4<br>2,4 | 0.026<br>0,0010  | 0.032<br>0,0013 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.095<br>0,0038 | 0.11<br>0,0044  | 43 (27 — 60)<br>140 (89 — 190)        |
| S11 | E     | 0.0800<br>0,0800 | 2.4<br>2,4 | 0.028<br>0,0011  | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 160 (140 — 180)<br>520 (460 — 590)    |
| S12 | E     | 0.0800<br>0,0800 | 2.4<br>2,4 | 0.028<br>0,0011  | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 125 (110 — 140)<br>410 (370 — 450)    |
| S13 | E     | 0.0800<br>0,0800 | 2.4<br>2,4 | 0.028<br>0,0011  | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 125 (110 — 140)<br>410 (370 — 450)    |
| H8  | M/A/D | 0.0500<br>0,0500 | 2.4<br>2,4 | 0.022<br>0,00085 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.090<br>0,0036 | 160 (140 — 180)<br>520 (460 — 590)    |
| H21 | M/A/D | 0.0500<br>0,0500 | 2.4<br>2,4 | 0.024<br>0,00095 | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 155 (140 — 180)<br>510 (460 — 590)    |
| H31 | M/A/D | 0.0500<br>0,0500 | 2.4<br>2,4 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 120 (110 — 140)<br>395 (370 — 450)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_g$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

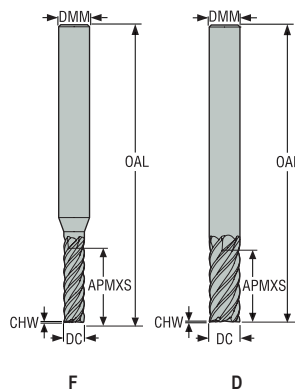
Graphite

X-Heads

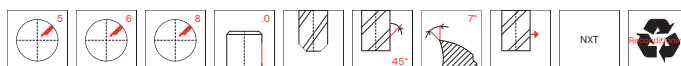
Minimaster

## JS520

High performance – Universal – Square – 5-8 Flutes – Cylindrical – Chamfer



—Tolerances:  
—DMM=h5  
—DC=e7  
—Reground possible if DC is  $\geq \varnothing 6$

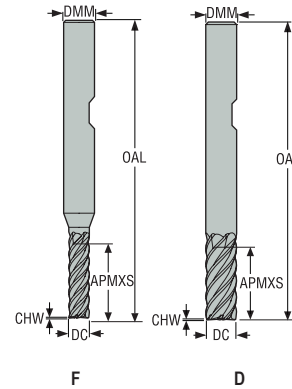


| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW  | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|-------|-------------|----------------|
| JS520040F2C.0Z5-NXT | 02927474    | 2            | F          | mm   | mm   | mm    | mm    | mm   |       |             |                |
| JS520050F2C.0Z5-NXT | 02927476    | 2            | F          | 4,0  | 6,0  | 10,0  | 57,0  | 0,04 | 5     | Cylindrical | ■              |
| JS520060D2C.0Z5-NXT | 02927478    | 2            | D          | 5,0  | 6,0  | 12,0  | 57,0  | 0,05 | 5     | Cylindrical | ■              |
| JS520060D2C.0Z6-NXT | 02927479    | 2            | D          | 6,0  | 6,0  | 15,0  | 57,0  | 0,06 | 5     | Cylindrical | ■              |
| JS520080D2C.0Z5-NXT | 02927482    | 2            | D          | 6,0  | 6,0  | 15,0  | 57,0  | 0,06 | 6     | Cylindrical | ■              |
| JS520080D2C.0Z6-NXT | 02927483    | 2            | D          | 8,0  | 8,0  | 20,0  | 63,0  | 0,08 | 5     | Cylindrical | ■              |
| JS520100D2C.0Z6-NXT | 02927486    | 2            | D          | 8,0  | 8,0  | 20,0  | 63,0  | 0,08 | 6     | Cylindrical | ■              |
| JS520120D2C.0Z6-NXT | 02927488    | 2            | D          | 10,0 | 10,0 | 25,0  | 72,0  | 0,1  | 6     | Cylindrical | ■              |
| JS520140D2C.0Z6-NXT | 02927490    | 2            | D          | 12,0 | 12,0 | 25,0  | 83,0  | 0,12 | 6     | Cylindrical | ■              |
| JS520160D2C.0Z6-NXT | 02927491    | 2            | D          | 14,0 | 14,0 | 30,0  | 83,0  | 0,14 | 6     | Cylindrical | ■              |
| JS520160D2C.0Z8-NXT | 02927492    | 2            | D          | 16,0 | 16,0 | 30,0  | 92,0  | 0,16 | 6     | Cylindrical | ■              |
| JS520200D2C.0Z8-NXT | 02927495    | 2            | D          | 16,0 | 16,0 | 30,0  | 92,0  | 0,16 | 8     | Cylindrical | ■              |
| JS520250D2C.0Z8-NXT | 02927497    | 2            | D          | 20,0 | 20,0 | 35,0  | 104,0 | 0,2  | 8     | Cylindrical | ■              |
| JS520250D2C.0Z8-NXT | 02927497    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 0,25 | 8     | Cylindrical | ■              |
| JS520040F3C.0Z5-NXT | 02927475    | 3            | F          | 4,0  | 6,0  | 15,0  | 57,0  | 0,04 | 5     | Cylindrical | ■              |
| JS520050F3C.0Z5-NXT | 02927477    | 3            | F          | 5,0  | 6,0  | 19,0  | 57,0  | 0,05 | 5     | Cylindrical | ■              |
| JS520060D3C.0Z5-NXT | 02927480    | 3            | D          | 6,0  | 6,0  | 20,0  | 63,0  | 0,06 | 5     | Cylindrical | ■              |
| JS520060D3C.0Z6-NXT | 02927481    | 3            | D          | 6,0  | 6,0  | 20,0  | 63,0  | 0,06 | 6     | Cylindrical | ■              |
| JS520080D3C.0Z5-NXT | 02927484    | 3            | D          | 8,0  | 8,0  | 30,0  | 80,0  | 0,08 | 5     | Cylindrical | ■              |
| JS520080D3C.0Z6-NXT | 02927485    | 3            | D          | 8,0  | 8,0  | 30,0  | 80,0  | 0,08 | 6     | Cylindrical | ■              |
| JS520100D3C.0Z6-NXT | 02927487    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 0,1  | 6     | Cylindrical | ■              |
| JS520120D3C.0Z6-NXT | 02927489    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 0,12 | 6     | Cylindrical | ■              |
| JS520160D3C.0Z6-NXT | 02927493    | 3            | D          | 16,0 | 16,0 | 65,0  | 125,0 | 0,16 | 6     | Cylindrical | ■              |
| JS520160D3C.0Z8-NXT | 02927494    | 3            | D          | 16,0 | 16,0 | 65,0  | 125,0 | 0,16 | 8     | Cylindrical | ■              |
| JS520200D3C.0Z8-NXT | 02927496    | 3            | D          | 20,0 | 20,0 | 65,0  | 125,0 | 0,2  | 8     | Cylindrical | ■              |
| JS520250D3C.0Z8-NXT | 02927498    | 3            | D          | 25,0 | 25,0 | 75,0  | 150,0 | 0,25 | 8     | Cylindrical | ■              |

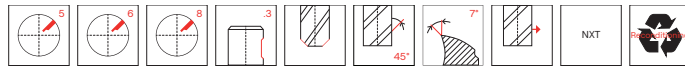
■ Stocked standard.

## JS520

High performance – Universal – Square – 5-8 Flutes – Weldon – Chamfer



- Tolerances:
- DMM=h5
- DC=e7
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW  | PCEDC | Shank  | Stock standard                      |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|-------|--------|-------------------------------------|
| JS520040F2C.3Z5-NXT | 02927499    | 2            | F          | mm   | mm   | mm    | mm    | mm   |       |        |                                     |
|                     |             |              |            | 4,0  | 6,0  | 10,0  | 57,0  | 0,04 | 5     | Weldon | <input type="checkbox"/>            |
| JS520050F2C.3Z5-NXT | 02927501    | 2            | F          | 5,0  | 6,0  | 12,0  | 57,0  | 0,05 | 5     | Weldon | <input type="checkbox"/>            |
| JS520060D2C.3Z5-NXT | 02927503    | 2            | D          | 6,0  | 6,0  | 15,0  | 57,0  | 0,06 | 5     | Weldon | <input type="checkbox"/>            |
| JS520060D2C.3Z6-NXT | 02927504    | 2            | D          | 6,0  | 6,0  | 15,0  | 57,0  | 0,06 | 6     | Weldon | <input type="checkbox"/>            |
| JS520080D2C.3Z5-NXT | 02927507    | 2            | D          | 8,0  | 8,0  | 20,0  | 63,0  | 0,08 | 5     | Weldon | <input type="checkbox"/>            |
| JS520080D2C.3Z6-NXT | 02927508    | 2            | D          | 8,0  | 8,0  | 20,0  | 63,0  | 0,08 | 6     | Weldon | <input checked="" type="checkbox"/> |
| JS520100D2C.3Z6-NXT | 02927511    | 2            | D          | 10,0 | 10,0 | 25,0  | 72,0  | 0,1  | 6     | Weldon | <input checked="" type="checkbox"/> |
| JS520120D2C.3Z6-NXT | 02927513    | 2            | D          | 12,0 | 12,0 | 25,0  | 83,0  | 0,12 | 6     | Weldon | <input checked="" type="checkbox"/> |
| JS520140D2C.3Z6-NXT | 02927515    | 2            | D          | 14,0 | 14,0 | 30,0  | 83,0  | 0,14 | 6     | Weldon | <input type="checkbox"/>            |
| JS520160D2C.3Z6-NXT | 02927516    | 2            | D          | 16,0 | 16,0 | 30,0  | 92,0  | 0,16 | 6     | Weldon | <input type="checkbox"/>            |
| JS520160D2C.3Z8-NXT | 02927517    | 2            | D          | 16,0 | 16,0 | 30,0  | 92,0  | 0,16 | 8     | Weldon | <input checked="" type="checkbox"/> |
| JS520200D2C.3Z8-NXT | 02927520    | 2            | D          | 20,0 | 20,0 | 35,0  | 104,0 | 0,2  | 8     | Weldon | <input checked="" type="checkbox"/> |
| JS520250D2C.3Z8-NXT | 02927522    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 0,25 | 8     | Weldon | <input checked="" type="checkbox"/> |
| JS520040F3C.3Z5-NXT | 02927500    | 3            | F          | 4,0  | 6,0  | 15,0  | 57,0  | 0,04 | 5     | Weldon | <input type="checkbox"/>            |
| JS520050F3C.3Z5-NXT | 02927502    | 3            | F          | 5,0  | 6,0  | 19,0  | 57,0  | 0,05 | 5     | Weldon | <input type="checkbox"/>            |
| JS520060D3C.3Z5-NXT | 02927505    | 3            | D          | 6,0  | 6,0  | 20,0  | 63,0  | 0,06 | 5     | Weldon | <input type="checkbox"/>            |
| JS520060D3C.3Z6-NXT | 02927506    | 3            | D          | 6,0  | 6,0  | 20,0  | 63,0  | 0,06 | 6     | Weldon | <input type="checkbox"/>            |
| JS520080D3C.3Z5-NXT | 02927509    | 3            | D          | 8,0  | 8,0  | 30,0  | 80,0  | 0,08 | 5     | Weldon | <input type="checkbox"/>            |
| JS520080D3C.3Z6-NXT | 02927510    | 3            | D          | 8,0  | 8,0  | 30,0  | 80,0  | 0,08 | 6     | Weldon | <input type="checkbox"/>            |
| JS520100D3C.3Z6-NXT | 02927512    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 0,1  | 6     | Weldon | <input type="checkbox"/>            |
| JS520120D3C.3Z6-NXT | 02927514    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 0,12 | 6     | Weldon | <input type="checkbox"/>            |
| JS520160D3C.3Z6-NXT | 02927518    | 3            | D          | 16,0 | 16,0 | 65,0  | 125,0 | 0,16 | 6     | Weldon | <input type="checkbox"/>            |
| JS520160D3C.3Z8-NXT | 02927519    | 3            | D          | 16,0 | 16,0 | 65,0  | 125,0 | 0,16 | 8     | Weldon | <input type="checkbox"/>            |
| JS520200D3C.3Z8-NXT | 02927521    | 3            | D          | 20,0 | 20,0 | 65,0  | 125,0 | 0,2  | 8     | Weldon | <input checked="" type="checkbox"/> |
| JS520250D3C.3Z8-NXT | 02927523    | 3            | D          | 25,0 | 25,0 | 75,0  | 150,0 | 0,25 | 8     | Weldon | <input checked="" type="checkbox"/> |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfpr

Graphite

X-Heads

Minimaster

## Cutting data – JS520 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 |                 |                 |                 |                |                |                | v <sub>c</sub>                     |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|------------------------------------|
|     |                                                                                   |                    |                    | 4               | 5               | 6               | 8               | 10              | 12              | 14              | 16             | 20             | 25             |                                    |
| P1  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.034<br>0,0013 | 0.044<br>0,0017 | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.17<br>0,0065 | 180 (120 — 250)<br>590 (400 — 820) |
| P2  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.17<br>0,0065 | 175 (110 — 240)<br>570 (370 — 780) |
| P3  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.16<br>0,0065 | 155 (95 — 210)<br>510 (320 — 680)  |
| P4  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.16<br>0,0065 | 135 (84 — 180)<br>445 (280 — 590)  |
| P5  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.15<br>0,0060 | 130 (81 — 180)<br>425 (270 — 590)  |
| P6  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.13<br>0,0050 | 0.15<br>0,0060 | 145 (90 — 200)<br>475 (300 — 650)  |
| P7  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.13<br>0,0050 | 0.15<br>0,0060 | 140 (85 — 190)<br>460 (280 — 620)  |
| P8  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.16<br>0,0065 | 130 (80 — 170)<br>425 (270 — 550)  |
| P11 | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.16<br>0,0065  | 0.17<br>0,0065 | 0.20<br>0,0080 | 0.22<br>0,0085 | 195 (160 — 230)<br>640 (530 — 750) |
| P12 | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.15<br>0,0060 | 125 (100 — 140)<br>410 (330 — 450) |
| M1  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.17<br>0,0065 | 150 (130 — 180)<br>490 (430 — 590) |
| M2  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.15<br>0,0060 | 125 (100 — 150)<br>410 (330 — 490) |
| M3  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.15<br>0,0060 | 100 (75 — 120)<br>330 (250 — 390)  |
| M4  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.095<br>0,0038 | 0.10<br>0,0040 | 0.12<br>0,0048 | 0.13<br>0,0050 | 75 (58 — 96)<br>245 (200 — 310)    |
| M5  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.095<br>0,0038 | 0.10<br>0,0040 | 0.12<br>0,0048 | 0.13<br>0,0050 | 65 (49 — 80)<br>215 (170 — 260)    |
| K1  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.17<br>0,0065 | 175 (110 — 240)<br>570 (370 — 780) |
| K2  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.15<br>0,0060 | 155 (97 — 210)<br>510 (320 — 680)  |
| K3  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.15<br>0,0060 | 135 (82 — 180)<br>445 (270 — 590)  |
| K4  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.15<br>0,0060 | 125 (79 — 170)<br>410 (260 — 550)  |
| K5  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.095<br>0,0038 | 0.11<br>0,0044 | 0.12<br>0,0048 | 0.14<br>0,0055 | 75 (48 — 100)<br>245 (160 — 320)   |
| K6  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.15<br>0,0060 | 110 (69 — 150)<br>360 (230 — 490)  |
| K7  | E/M/A                                                                             | 0.100<br>0,100     | 2.0<br>2,0         | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.095<br>0,0038 | 0.11<br>0,0044 | 0.12<br>0,0048 | 0.14<br>0,0055 | 100 (62 — 130)<br>330 (210 — 420)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
v<sub>c</sub> = m/min (sf/min)  
f<sub>z</sub> = mm (in/tooth)  
a<sub>p</sub> = mm/DC (in/DC) = factor  
a<sub>e</sub> = mm/DC (in/DC) = factor  
All cutting data are target values

## Cutting data – JS520 Side milling

| SMG |  | $a_e$ /DC        | $a_p$ /DC  | $f_z$            |                 |                 |                 |                 |                 |                 |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|------------------|------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                  |            | 4                | 5               | 6               | 8               | 10              | 12              | 14              | 16              | 20              | 25              |                                       |
| N1  | E/M/A                                                                             | 0.100<br>0,100   | 2.0<br>2,0 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 500 (450 — 550)<br>1650 (1500 — 1800) |
| N2  | E/M/A                                                                             | 0.100<br>0,100   | 2.0<br>2,0 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 320 (290 — 350)<br>1050 (960 — 1100)  |
| N3  | E/M/A                                                                             | 0.100<br>0,100   | 2.0<br>2,0 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 215 (200 — 230)<br>710 (660 — 750)    |
| N11 | E/M/A                                                                             | 0.100<br>0,100   | 2.0<br>2,0 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 400 (350 — 450)<br>1300 (1200 — 1400) |
| S1  | E/M/A                                                                             | 0.0600<br>0,0600 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 75 (63 — 86)<br>245 (210 — 280)       |
| S2  | E/M/A                                                                             | 0.0600<br>0,0600 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 60 (50 — 70)<br>195 (170 — 220)       |
| S3  | E/M/A                                                                             | 0.0600<br>0,0600 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 40 (30 — 49)<br>130 (99 — 160)        |
| S11 | E/M/A                                                                             | 0.100<br>0,100   | 2.0<br>2,0 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 105 (92 — 110)<br>345 (310 — 360)     |
| S12 | E/M/A                                                                             | 0.100<br>0,100   | 2.0<br>2,0 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 80 (71 — 90)<br>260 (240 — 290)       |
| S13 | E/M/A                                                                             | 0.100<br>0,100   | 2.0<br>2,0 | 0.028<br>0,0011  | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.095<br>0,0038 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 65 (56 — 71)<br>215 (190 — 230)       |
| H5  | M/A                                                                               | 0.0600<br>0,0600 | 2.0<br>2,0 | 0.030<br>0,0012  | 0.038<br>0,0015 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.14<br>0,0055  | 125 (64 — 180)<br>410 (210 — 590)     |
| H8  | M/A                                                                               | 0.0600<br>0,0600 | 2.0<br>2,0 | 0.024<br>0,00095 | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 130 (66 — 190)<br>425 (220 — 620)     |
| H11 | M/A                                                                               | 0.0600<br>0,0600 | 2.0<br>2,0 | 0.030<br>0,0012  | 0.038<br>0,0015 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.14<br>0,0055  | 160 (81 — 240)<br>520 (270 — 780)     |
| H12 | M/A                                                                               | 0.0600<br>0,0600 | 2.0<br>2,0 | 0.024<br>0,00095 | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 150 (76 — 220)<br>490 (250 — 720)     |
| H21 | M/A                                                                               | 0.0600<br>0,0600 | 2.0<br>2,0 | 0.024<br>0,00095 | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 130 (66 — 190)<br>425 (220 — 620)     |
| H31 | M/A                                                                               | 0.0600<br>0,0600 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 100 (51 — 150)<br>330 (170 — 490)     |
| TS1 | A/D                                                                               | 0.100<br>0,100   | 2.0<br>2,0 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 500 (450 — 550)<br>1650 (1500 — 1800) |
| TP1 | A/D                                                                               | 0.100<br>0,100   | 2.0<br>2,0 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 395 (350 — 440)<br>1300 (1200 — 1400) |
| GR1 | A/D                                                                               | 0.100<br>0,100   | 2.0<br>2,0 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 500 (450 — 550)<br>1650 (1500 — 1800) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

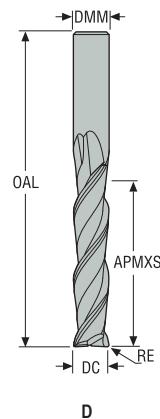
Graphite

X-Heads

Minimaster

## JS522

High performance – Universal – Square – 2 Flutes – High shoulder – Cylindrical – Corner radius



—Tolerances:

—Run-out= Ø6-Ø8 &lt;0,01, Ø10-Ø12 &lt;0,015, Ø16-Ø32 &lt;0,02

—DMM= h5

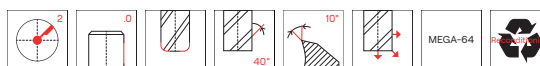
—DC= -0,02/-0,04 mm

—RE= 0,1±0,1 mm, RE= 0,5 ±0,03 mm

RE= 3,1 ±0,05 mm, RE= 4 ±0,05 mm

RE= 6 ±0,05 mm

—Regrind possible if DC is ≥Ø6



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-------------|----------------|
|                        |             |              |            | mm   | mm   | mm    | mm    | mm  |       |             |                |
| 522060R010Z2.0-MEGA-64 | 02747756    | 4            | D          | 6,0  | 6,0  | 30,0  | 80,0  | 0,1 | 2     | Cylindrical | ■              |
| 522080R010Z2.0-MEGA-64 | 02747763    | 4            | D          | 8,0  | 8,0  | 40,0  | 85,0  | 0,1 | 2     | Cylindrical | ■              |
| 522100R010Z2.0-MEGA-64 | 02747765    | 4            | D          | 10,0 | 10,0 | 50,0  | 100,0 | 0,1 | 2     | Cylindrical | ■              |
| 522120R010Z2.0-MEGA-64 | 02747766    | 4            | D          | 12,0 | 12,0 | 60,0  | 115,0 | 0,1 | 2     | Cylindrical | ■              |
| 522160R050Z2.0-MEGA-64 | 02747767    | 4            | D          | 16,0 | 16,0 | 80,0  | 150,0 | 0,5 | 2     | Cylindrical | ■              |
| 522160R310Z2.0-MEGA-64 | 02747768    | 4            | D          | 16,0 | 16,0 | 80,0  | 150,0 | 3,1 | 2     | Cylindrical | ■              |
| JS522160D4R600.0Z2-M64 | 03093681    | 4            | D          | 16,0 | 16,0 | 80,0  | 150,0 | 6,0 | 2     | Cylindrical | ■              |
| 522200R050Z2.0-MEGA-64 | 02747769    | 4            | D          | 20,0 | 20,0 | 100,0 | 175,0 | 0,5 | 2     | Cylindrical | ■              |
| 522200R310Z2.0-MEGA-64 | 02747770    | 4            | D          | 20,0 | 20,0 | 100,0 | 175,0 | 3,1 | 2     | Cylindrical | ■              |
| JS522200D4R600.0Z2-M64 | 03093682    | 4            | D          | 20,0 | 20,0 | 100,0 | 175,0 | 6,0 | 2     | Cylindrical | ■              |
| 522250R050Z2.0-MEGA-64 | 02747771    | 4            | D          | 25,0 | 25,0 | 125,0 | 205,0 | 0,5 | 2     | Cylindrical | ■              |
| 522250R310Z2.0-MEGA-64 | 02747772    | 4            | D          | 25,0 | 25,0 | 125,0 | 205,0 | 3,1 | 2     | Cylindrical | ■              |
| 522250R400Z2.0-MEGA-64 | 02747773    | 4            | D          | 25,0 | 25,0 | 125,0 | 205,0 | 4,0 | 2     | Cylindrical | ■              |
| JS522250D4R600.0Z2-M64 | 03093683    | 4            | D          | 25,0 | 25,0 | 125,0 | 205,0 | 6,0 | 2     | Cylindrical | ■              |
| 522320R050Z2.0-MEGA-64 | 02747774    | 4            | D          | 32,0 | 32,0 | 160,0 | 245,0 | 0,5 | 2     | Cylindrical | ■              |
| 522320R400Z2.0-MEGA-64 | 02747775    | 4            | D          | 32,0 | 32,0 | 160,0 | 245,0 | 4,0 | 2     | Cylindrical | ■              |
| JS522320D4R600.0Z2-M64 | 03093684    | 4            | D          | 32,0 | 32,0 | 160,0 | 245,0 | 6,0 | 2     | Cylindrical | ■              |

■ Stocked standard.

\*JS522 long flute finisher, with its special geometry designed to machine high shoulders with excellent surface finish and perpendicularity.



## Cutting data – JS522 Side milling semi finishing

| SMG |  | $a_p$ /DC        | $a_p$ /DC  | $f_z$           |                 |                 |                 |                 |                |                |                | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|------------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|------------------------------------|
|     |                                                                                   |                  |            | 6               | 8               | 10              | 12              | 16              | 20             | 25             | 32             |                                    |
| P1  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050 | 0.14<br>0,0055 | 0.16<br>0,0065 | 160 (140 — 170)<br>520 (460 — 550) |
| P2  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.17<br>0,0065 | 155 (140 — 170)<br>510 (460 — 550) |
| P3  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.044<br>0,0017 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.16<br>0,0065 | 165 (150 — 180)<br>540 (500 — 590) |
| P4  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.15<br>0,0060 | 145 (130 — 160)<br>475 (430 — 520) |
| P5  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.13<br>0,0050 | 0.15<br>0,0060 | 140 (130 — 160)<br>460 (430 — 520) |
| P6  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.13<br>0,0050 | 0.15<br>0,0060 | 120 (110 — 140)<br>395 (370 — 450) |
| P7  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.13<br>0,0050 | 0.15<br>0,0060 | 115 (95 — 130)<br>375 (320 — 420)  |
| P8  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.044<br>0,0017 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.16<br>0,0065 | 105 (89 — 120)<br>345 (300 — 390)  |
| P11 | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065 | 0.20<br>0,0080 | 0.22<br>0,0085 | 105 (87 — 120)<br>345 (290 — 390)  |
| P12 | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.13<br>0,0050 | 0.15<br>0,0060 | 65 (55 — 75)<br>215 (190 — 240)    |
| M1  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.17<br>0,0065 | 110 (86 — 130)<br>360 (290 — 420)  |
| M2  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.13<br>0,0050 | 0.15<br>0,0060 | 90 (71 — 110)<br>295 (240 — 360)   |
| M3  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.13<br>0,0050 | 0.15<br>0,0060 | 80 (61 — 100)<br>260 (210 — 320)   |
| M4  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040 | 0.12<br>0,0048 | 0.13<br>0,0050 | 60 (47 — 76)<br>195 (160 — 240)    |
| M5  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040 | 0.12<br>0,0048 | 0.13<br>0,0050 | 50 (39 — 63)<br>165 (130 — 200)    |
| K1  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.17<br>0,0065 | 120 (100 — 130)<br>395 (330 — 420) |
| K2  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.13<br>0,0050 | 0.15<br>0,0060 | 105 (87 — 120)<br>345 (290 — 390)  |
| K3  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.13<br>0,0050 | 0.15<br>0,0060 | 90 (74 — 100)<br>295 (250 — 320)   |
| K4  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.13<br>0,0050 | 0.15<br>0,0060 | 85 (71 — 98)<br>280 (240 — 320)    |
| K5  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044 | 0.12<br>0,0048 | 0.14<br>0,0055 | 100 (81 — 120)<br>330 (270 — 390)  |
| K6  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 0.13<br>0,0050 | 0.15<br>0,0060 | 150 (120 — 170)<br>490 (400 — 550) |
| K7  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044 | 0.12<br>0,0048 | 0.14<br>0,0055 | 130 (110 — 150)<br>425 (370 — 490) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfpr

Graphite

X-Heads

Minimaster

## Cutting data – JS522 Side milling semi finishing

| SMG |  | $a_e/DC$         | $a_p/DC$   | $f_z$            |                  |                 |                 |                 |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|------------------|------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                  |            | 6                | 8                | 10              | 12              | 16              | 20              | 25              | 32              |                                       |
| N1  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017  | 0.055<br>0,0022  | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060  | 400 (310 — 500)<br>1300 (1100 — 1600) |
| N2  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017  | 0.055<br>0,0022  | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060  | 300 (210 — 400)<br>980 (690 — 1300)   |
| N3  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017  | 0.055<br>0,0022  | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060  | 200 (140 — 260)<br>660 (460 — 850)    |
| N11 | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017  | 0.055<br>0,0022  | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060  | 300 (260 — 350)<br>980 (860 — 1100)   |
| S1  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.065<br>0,0026 | 48 (39 — 57)<br>155 (130 — 180)       |
| S2  | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.065<br>0,0026 | 39 (31 — 46)<br>130 (110 — 150)       |
| S3  | E/M/A                                                                             | 0.0300<br>0,0300 | 4.0<br>4,0 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.065<br>0,0026 | 42 (32 — 51)<br>140 (110 — 160)       |
| S11 | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017  | 0.055<br>0,0022  | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060  | 125 (100 — 140)<br>410 (330 — 450)    |
| S12 | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017  | 0.055<br>0,0022  | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060  | 95 (77 — 110)<br>310 (260 — 360)      |
| S13 | E/M/A                                                                             | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.036<br>0,0014  | 0.048<br>0,0019  | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 75 (61 — 90)<br>245 (210 — 290)       |
| TS1 | A/D                                                                               | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017  | 0.055<br>0,0022  | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060  | 500 (410 — 600)<br>1650 (1400 — 1900) |
| TP1 | A/D                                                                               | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017  | 0.055<br>0,0022  | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060  | 400 (310 — 500)<br>1300 (1100 — 1600) |
| GR1 | A/D                                                                               | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.042<br>0,0017  | 0.055<br>0,0022  | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060  | 500 (410 — 600)<br>1650 (1400 — 1900) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

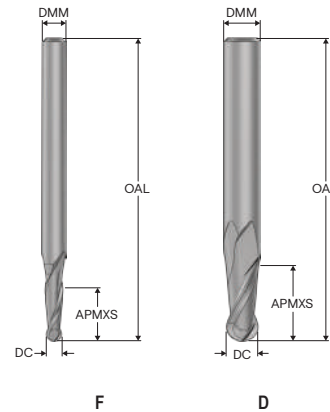
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

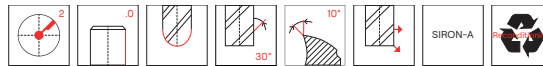
All cutting data are target values

## C5321

General purpose – Universal – Ball nose – 2 Flutes – Cylindrical



- Tolerances:
- DMM=h5
- DC= h10
- RE= ±0,01 mm
- Regrind possible if DC is ≥Ø10



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE   | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|-------|-------------|----------------|
|                  |       |             |              |            | mm   | mm   | mm    | mm    | mm   |       |             |                |
| C5321-060D1B.0Z2 | SIRA  | 10268679    | 1            | D          | 6,0  | 6,0  | 9,0   | 57,0  | 3,0  | 2     | Cylindrical | ■              |
| C5321-020F2B.0Z2 | SIRA  | 10268669    | 2            | F          | 2,0  | 3,0  | 4,0   | 38,0  | 1,0  | 2     | Cylindrical | ■              |
| C5321-030D2B.0Z2 | SIRA  | 10268672    | 2            | D          | 3,0  | 3,0  | 6,0   | 38,0  | 1,5  | 2     | Cylindrical | ■              |
| C5321-040D2B.0Z2 | SIRA  | 10268675    | 2            | D          | 4,0  | 4,0  | 8,0   | 50,0  | 2,0  | 2     | Cylindrical | ■              |
| C5321-050F2B.0Z2 | SIRA  | 10268677    | 2            | F          | 5,0  | 6,0  | 10,0  | 57,0  | 2,5  | 2     | Cylindrical | ■              |
| C5321-060D2B.0Z2 | SIRA  | 10268680    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | 3,0  | 2     | Cylindrical | ■              |
| C5321-080D2B.0Z2 | SIRA  | 10268682    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | 4,0  | 2     | Cylindrical | ■              |
| C5321-090F2B.0Z2 | SIRA  | 10268684    | 2            | F          | 9,0  | 10,0 | 22,0  | 72,0  | 4,5  | 2     | Cylindrical | ■              |
| C5321-100D2B.0Z2 | SIRA  | 10268685    | 2            | D          | 10,0 | 10,0 | 22,0  | 72,0  | 5,0  | 2     | Cylindrical | ■              |
| C5321-120D2B.0Z2 | SIRA  | 10268687    | 2            | D          | 12,0 | 12,0 | 25,0  | 83,0  | 6,0  | 2     | Cylindrical | ■              |
| C5321-015F3B.0Z2 | SIRA  | 10268668    | 3            | F          | 1,5  | 3,0  | 4,5   | 38,0  | 0,75 | 2     | Cylindrical | ■              |
| C5321-020F3B.0Z2 | SIRA  | 10268670    | 3            | F          | 2,0  | 3,0  | 6,3   | 38,0  | 1,0  | 2     | Cylindrical | ■              |
| C5321-035F3B.0Z2 | SIRA  | 10268674    | 3            | F          | 3,5  | 4,0  | 12,0  | 50,0  | 1,75 | 2     | Cylindrical | ■              |
| C5321-050F3B.0Z2 | SIRA  | 10268678    | 3            | F          | 5,0  | 6,0  | 16,0  | 57,0  | 2,5  | 2     | Cylindrical | ■              |
| C5321-060D3B.0Z2 | SIRA  | 10268681    | 3            | D          | 6,0  | 6,0  | 19,0  | 63,0  | 3,0  | 2     | Cylindrical | ■              |
| C5321-080D3B.0Z2 | SIRA  | 10268683    | 3            | D          | 8,0  | 8,0  | 20,0  | 63,0  | 4,0  | 2     | Cylindrical | ■              |
| C5321-010F4B.0Z2 | SIRA  | 10268667    | 4            | F          | 1,0  | 3,0  | 4,0   | 38,0  | 0,5  | 2     | Cylindrical | ■              |
| C5321-030D4B.0Z2 | SIRA  | 10268673    | 4            | D          | 3,0  | 3,0  | 12,0  | 38,0  | 1,5  | 2     | Cylindrical | ■              |
| C5321-040D4B.0Z2 | SIRA  | 10268676    | 4            | D          | 4,0  | 4,0  | 14,0  | 50,0  | 2,0  | 2     | Cylindrical | ■              |
| C5321-100D4B.0Z2 | SIRA  | 10268686    | 4            | D          | 10,0 | 10,0 | 35,0  | 89,0  | 5,0  | 2     | Cylindrical | ■              |
| C5321-120D4B.0Z2 | SIRA  | 10268688    | 4            | D          | 12,0 | 12,0 | 50,0  | 100,0 | 6,0  | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

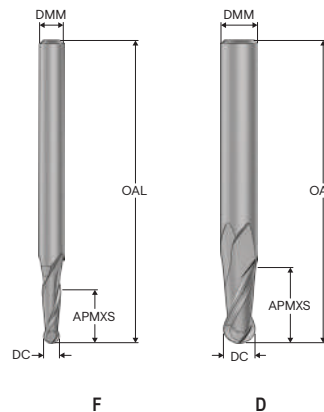
Graphite

X-Heads

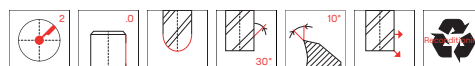
Minimaster

## C5321

General purpose – Universal – Ball nose – 2 Flutes – Cylindrical – Inch



—Tolerances:  
—DMM=+.0001"/-.0004"  
—DC ≤ Ø7/64" = ±.0005"  
—DC > Ø7/64" = +.000"/-.002"  
—RE= ±.0005"  
—Regrind possible if DC is ≥Ø.375

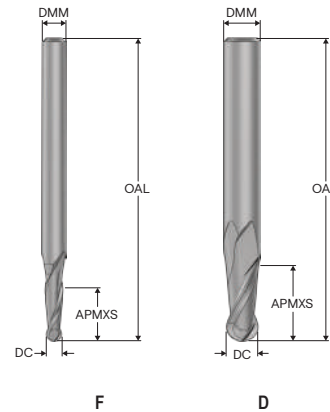


| Designation        | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|--------------------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |             |              |            | inch  | inch  | inch  | inch  | inch  |       |             |                |
| C5321-.500D1B.0Z2  | 10268913    | 1            | D          | 0.500 | 0.500 | 0.625 | 2.500 | 0.250 | 2     | Cylindrical | ■              |
| C5321-1.000D1B.0Z2 | 10268923    | 1            | D          | 1.000 | 1.000 | 1.500 | 4.000 | 0.500 | 2     | Cylindrical | ■              |
| C5321-.016F2B.0Z2  | 10268878    | 2            | F          | 0.016 | 0.125 | 0.031 | 1.500 | 0.008 | 2     | Cylindrical | ■              |
| C5321-.047F2B.0Z2  | 10268881    | 2            | F          | 0.047 | 0.125 | 0.109 | 1.500 | 0.023 | 2     | Cylindrical | ■              |
| C5321-.063F2B.0Z2  | 10268883    | 2            | F          | 0.063 | 0.125 | 0.125 | 1.500 | 0.031 | 2     | Cylindrical | ■              |
| C5321-.078F2B.0Z2  | 10268886    | 2            | F          | 0.078 | 0.125 | 0.188 | 1.500 | 0.039 | 2     | Cylindrical | ■              |
| C5321-.094F2B.0Z2  | 10268888    | 2            | F          | 0.094 | 0.125 | 0.188 | 1.500 | 0.047 | 2     | Cylindrical | ■              |
| C5321-.125D2B.0Z2  | 10268891    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 0.063 | 2     | Cylindrical | ■              |
| C5321-.188D2B.0Z2  | 10268896    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 0.094 | 2     | Cylindrical | ■              |
| C5321-.250D2B.0Z2  | 10268899    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.000 | 0.125 | 2     | Cylindrical | ■              |
| C5321-.375D2B.0Z2  | 10268908    | 2            | D          | 0.375 | 0.375 | 0.625 | 2.000 | 0.188 | 2     | Cylindrical | ■              |
| C5321-.500D2B.0Z2  | 10268914    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.250 | 2     | Cylindrical | ■              |
| C5321-.625D2B.0Z2  | 10268919    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.313 | 2     | Cylindrical | ■              |
| C5321-.750D2B.0Z2  | 10268921    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.375 | 2     | Cylindrical | ■              |
| C5321-.031F3B.0Z2  | 10268879    | 3            | F          | 0.031 | 0.125 | 0.078 | 1.500 | 0.016 | 2     | Cylindrical | ■              |
| C5321-.047F3B.0Z2  | 10268882    | 3            | F          | 0.047 | 0.125 | 0.125 | 1.500 | 0.023 | 2     | Cylindrical | ■              |
| C5321-.063F3B.0Z2  | 10268884    | 3            | F          | 0.063 | 0.125 | 0.188 | 1.500 | 0.031 | 2     | Cylindrical | ■              |
| C5321-.078F3B.0Z2  | 10268887    | 3            | F          | 0.078 | 0.125 | 0.250 | 1.500 | 0.039 | 2     | Cylindrical | ■              |
| C5321-.094F3B.0Z2  | 10268889    | 3            | F          | 0.094 | 0.125 | 0.281 | 1.500 | 0.047 | 2     | Cylindrical | ■              |
| C5321-.156F3B.0Z2  | 10268895    | 3            | F          | 0.156 | 0.188 | 0.500 | 2.000 | 0.078 | 2     | Cylindrical | ■              |
| C5321-.188D3B.0Z2  | 10268897    | 3            | D          | 0.188 | 0.188 | 0.625 | 2.000 | 0.094 | 2     | Cylindrical | ■              |
| C5321-.250D3B.0Z2  | 10268900    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.125 | 2     | Cylindrical | ■              |
| C5321-.313D3B.0Z2  | 10268905    | 3            | D          | 0.313 | 0.313 | 0.813 | 2.500 | 0.156 | 2     | Cylindrical | ■              |
| C5321-.375D3B.0Z2  | 10268909    | 3            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 0.188 | 2     | Cylindrical | ■              |
| C5321-.500D3B.0Z2  | 10268915    | 3            | D          | 0.500 | 0.500 | 1.000 | 4.000 | 0.250 | 2     | Cylindrical | ■              |
| C5321-.750D3B.0Z2  | 10268922    | 3            | D          | 0.750 | 0.750 | 2.000 | 6.000 | 0.375 | 2     | Cylindrical | ■              |

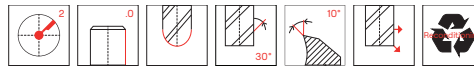
■ Stocked standard.

## C5321

General purpose – Universal – Ball nose – 2 Flutes – Cylindrical – Inch



- Tolerances:
- DMM=  $-.0001"/-0.0004"$
- DC  $\leq \varnothing 7/64" = \pm 0.0005"$
- DC  $> \varnothing 7/64" = +.000"/-0.002"$
- RE=  $\pm 0.0005"$
- Regrind possible if DC is  $\geq \varnothing .375$



| Designation       | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|-------------------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
|                   |             |              |            | inch  | inch  | inch  | inch  | inch  |       |             |                |
| C5321-.031F4B.0Z2 | 10268880    | 4            | F          | 0.031 | 0.125 | 0.094 | 1.500 | 0.016 | 2     | Cylindrical | ■              |
| C5321-.063F4B.0Z2 | 10268885    | 4            | F          | 0.063 | 0.125 | 0.250 | 1.500 | 0.031 | 2     | Cylindrical | ■              |
| C5321-.094F4B.0Z2 | 10268890    | 4            | F          | 0.094 | 0.125 | 0.375 | 1.500 | 0.047 | 2     | Cylindrical | ■              |
| C5321-.125D4B.0Z2 | 10268892    | 4            | D          | 0.125 | 0.125 | 0.500 | 1.500 | 0.063 | 2     | Cylindrical | ■              |
| C5321-.188D4B.0Z2 | 10268898    | 4            | D          | 0.188 | 0.188 | 1.000 | 3.000 | 0.094 | 2     | Cylindrical | ■              |
| C5321-.250D4B.0Z2 | 10268901    | 4            | D          | 0.250 | 0.250 | 1.000 | 3.000 | 0.125 | 2     | Cylindrical | ■              |
| C5321-.375D4B.0Z2 | 10268910    | 4            | D          | 0.375 | 0.375 | 1.000 | 3.000 | 0.188 | 2     | Cylindrical | ■              |
| C5321-.500D4B.0Z2 | 10268916    | 4            | D          | 0.500 | 0.500 | 1.500 | 6.000 | 0.250 | 2     | Cylindrical | ■              |
| C5321-.125D5B.0Z2 | 10268893    | 5            | D          | 0.125 | 0.125 | 0.625 | 2.000 | 0.063 | 2     | Cylindrical | ■              |
| C5321-.250D5B.0Z2 | 10268902    | 5            | D          | 0.250 | 0.250 | 1.000 | 4.000 | 0.125 | 2     | Cylindrical | ■              |
| C5321-.313D5B.0Z2 | 10268906    | 5            | D          | 0.313 | 0.313 | 1.000 | 4.000 | 0.156 | 2     | Cylindrical | ■              |
| C5321-.500D5B.0Z2 | 10268917    | 5            | D          | 0.500 | 0.500 | 2.000 | 4.000 | 0.250 | 2     | Cylindrical | ■              |
| C5321-.125D6B.0Z2 | 10268894    | 6            | D          | 0.125 | 0.125 | 0.750 | 3.000 | 0.063 | 2     | Cylindrical | ■              |
| C5321-.250D6B.0Z2 | 10268903    | 6            | D          | 0.250 | 0.250 | 1.500 | 4.000 | 0.125 | 2     | Cylindrical | ■              |
| C5321-.375D6B.0Z2 | 10268911    | 6            | D          | 0.375 | 0.375 | 1.500 | 6.000 | 0.188 | 2     | Cylindrical | ■              |
| C5321-.500D6B.0Z2 | 10268918    | 6            | D          | 0.500 | 0.500 | 3.000 | 6.000 | 0.250 | 2     | Cylindrical | ■              |
| C5321-.375D7B.0Z2 | 10268912    | 7            | D          | 0.375 | 0.375 | 2.000 | 4.000 | 0.188 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

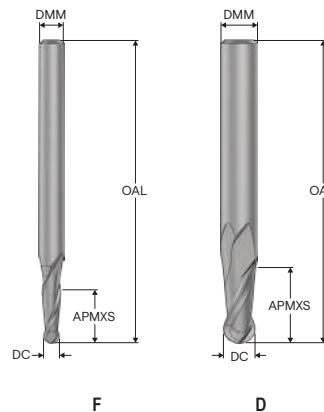
Graphite

X-Heads

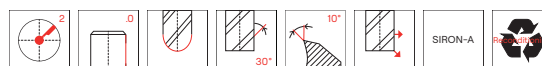
Minimaster

## C5321

General purpose – Universal – Ball nose – 2 Flutes – Cylindrical – Inch



—Tolerances:  
—DMM=+.0001"/-.0004"  
—DC ≤ Ø7/64" = ±.0005"  
—DC > Ø7/64" = +.000"/-.002"  
—RE= ±.0005"  
—Reground possible if DC is ≥Ø.375

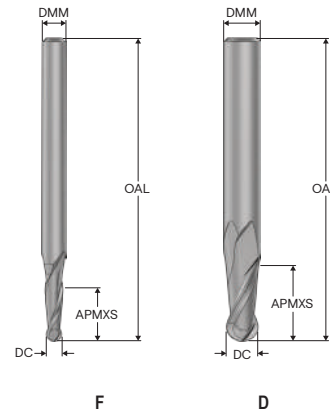


| Designation       | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|-------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
|                   |       |             |              |            | inch  | inch  | inch  | inch  | inch  |       |             |                |
| C5321-.500D1B.0Z2 | SIRA  | 10268630    | 1            | D          | 0.500 | 0.500 | 0.625 | 2.500 | 0.250 | 2     | Cylindrical | ■              |
| C5321-.750D1B.0Z2 | SIRA  | 10268637    | 1            | D          | 0.750 | 0.750 | 1.000 | 3.000 | 0.375 | 2     | Cylindrical | ■              |
| C5321-.016F2B.0Z2 | SIRA  | 10268595    | 2            | F          | 0.016 | 0.125 | 0.031 | 1.500 | 0.008 | 2     | Cylindrical | ■              |
| C5321-.047F2B.0Z2 | SIRA  | 10268598    | 2            | F          | 0.047 | 0.125 | 0.109 | 1.500 | 0.023 | 2     | Cylindrical | ■              |
| C5321-.063F2B.0Z2 | SIRA  | 10268600    | 2            | F          | 0.063 | 0.125 | 0.125 | 1.500 | 0.031 | 2     | Cylindrical | ■              |
| C5321-.078F2B.0Z2 | SIRA  | 10268603    | 2            | F          | 0.078 | 0.125 | 0.188 | 1.500 | 0.039 | 2     | Cylindrical | ■              |
| C5321-.094F2B.0Z2 | SIRA  | 10268605    | 2            | F          | 0.094 | 0.125 | 0.188 | 1.500 | 0.047 | 2     | Cylindrical | ■              |
| C5321-.125D2B.0Z2 | SIRA  | 10268608    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 0.063 | 2     | Cylindrical | ■              |
| C5321-.188D2B.0Z2 | SIRA  | 10268613    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 0.094 | 2     | Cylindrical | ■              |
| C5321-.250D2B.0Z2 | SIRA  | 10268616    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.000 | 0.125 | 2     | Cylindrical | ■              |
| C5321-.375D2B.0Z2 | SIRA  | 10268625    | 2            | D          | 0.375 | 0.375 | 0.625 | 2.000 | 0.188 | 2     | Cylindrical | ■              |
| C5321-.500D2B.0Z2 | SIRA  | 10268631    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.250 | 2     | Cylindrical | ■              |
| C5321-.625D2B.0Z2 | SIRA  | 10268636    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.313 | 2     | Cylindrical | ■              |
| C5321-.750D2B.0Z2 | SIRA  | 10268638    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.375 | 2     | Cylindrical | ■              |
| C5321-.031F3B.0Z2 | SIRA  | 10268596    | 3            | F          | 0.031 | 0.125 | 0.078 | 1.500 | 0.016 | 2     | Cylindrical | ■              |
| C5321-.047F3B.0Z2 | SIRA  | 10268599    | 3            | F          | 0.047 | 0.125 | 0.125 | 1.500 | 0.023 | 2     | Cylindrical | ■              |
| C5321-.063F3B.0Z2 | SIRA  | 10268601    | 3            | F          | 0.063 | 0.125 | 0.188 | 1.500 | 0.031 | 2     | Cylindrical | ■              |
| C5321-.078F3B.0Z2 | SIRA  | 10268604    | 3            | F          | 0.078 | 0.125 | 0.250 | 1.500 | 0.039 | 2     | Cylindrical | ■              |
| C5321-.094F3B.0Z2 | SIRA  | 10268606    | 3            | F          | 0.094 | 0.125 | 0.281 | 1.500 | 0.047 | 2     | Cylindrical | ■              |
| C5321-.156F3B.0Z2 | SIRA  | 10268612    | 3            | F          | 0.156 | 0.188 | 0.500 | 2.000 | 0.078 | 2     | Cylindrical | ■              |
| C5321-.188D3B.0Z2 | SIRA  | 10268614    | 3            | D          | 0.188 | 0.188 | 0.625 | 2.000 | 0.094 | 2     | Cylindrical | ■              |
| C5321-.250D3B.0Z2 | SIRA  | 10268617    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.125 | 2     | Cylindrical | ■              |
| C5321-.313D3B.0Z2 | SIRA  | 10268622    | 3            | D          | 0.313 | 0.313 | 0.813 | 2.500 | 0.156 | 2     | Cylindrical | ■              |
| C5321-.375D3B.0Z2 | SIRA  | 10268626    | 3            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 0.188 | 2     | Cylindrical | ■              |
| C5321-.500D3B.0Z2 | SIRA  | 10268632    | 3            | D          | 0.500 | 0.500 | 1.000 | 4.000 | 0.250 | 2     | Cylindrical | ■              |
| C5321-.750D3B.0Z2 | SIRA  | 10268639    | 3            | D          | 0.750 | 0.750 | 2.000 | 6.000 | 0.375 | 2     | Cylindrical | ■              |

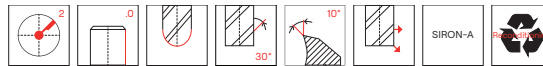
■ Stocked standard.

## C5321

General purpose – Universal – Ball nose – 2 Flutes – Cylindrical – Inch



- Tolerances:
- DMM=  $-.0001"/-0.0004"$
- DC  $\leq \varnothing 7/64" = \pm 0.0005"$
- DC  $> \varnothing 7/64" = +0.000"/-0.002"$
- RE=  $\pm 0.0005"$
- Regrind possible if DC is  $\geq \varnothing .375$



| Designation       | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|-------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
|                   |       |             |              |            | inch  | inch  | inch  | inch  | inch  |       |             |                |
| C5321-.031F4B.0Z2 | SIRA  | 10268597    | 4            | F          | 0.031 | 0.125 | 0.094 | 1.500 | 0.016 | 2     | Cylindrical | ■              |
| C5321-.063F4B.0Z2 | SIRA  | 10268602    | 4            | F          | 0.063 | 0.125 | 0.250 | 1.500 | 0.031 | 2     | Cylindrical | ■              |
| C5321-.094F4B.0Z2 | SIRA  | 10268607    | 4            | F          | 0.094 | 0.125 | 0.375 | 1.500 | 0.047 | 2     | Cylindrical | ■              |
| C5321-.125D4B.0Z2 | SIRA  | 10268609    | 4            | D          | 0.125 | 0.125 | 0.500 | 1.500 | 0.063 | 2     | Cylindrical | ■              |
| C5321-.188D4B.0Z2 | SIRA  | 10268615    | 4            | D          | 0.188 | 0.188 | 1.000 | 3.000 | 0.094 | 2     | Cylindrical | ■              |
| C5321-.250D4B.0Z2 | SIRA  | 10268618    | 4            | D          | 0.250 | 0.250 | 1.000 | 3.000 | 0.125 | 2     | Cylindrical | ■              |
| C5321-.375D4B.0Z2 | SIRA  | 10268627    | 4            | D          | 0.375 | 0.375 | 1.000 | 3.000 | 0.188 | 2     | Cylindrical | ■              |
| C5321-.500D4B.0Z2 | SIRA  | 10268633    | 4            | D          | 0.500 | 0.500 | 1.500 | 6.000 | 0.250 | 2     | Cylindrical | ■              |
| C5321-.125D5B.0Z2 | SIRA  | 10268610    | 5            | D          | 0.125 | 0.125 | 0.625 | 2.000 | 0.063 | 2     | Cylindrical | ■              |
| C5321-.250D5B.0Z2 | SIRA  | 10268619    | 5            | D          | 0.250 | 0.250 | 1.000 | 4.000 | 0.125 | 2     | Cylindrical | ■              |
| C5321-.313D5B.0Z2 | SIRA  | 10268623    | 5            | D          | 0.313 | 0.313 | 1.000 | 4.000 | 0.156 | 2     | Cylindrical | ■              |
| C5321-.500D5B.0Z2 | SIRA  | 10268634    | 5            | D          | 0.500 | 0.500 | 2.000 | 4.000 | 0.250 | 2     | Cylindrical | ■              |
| C5321-.125D6B.0Z2 | SIRA  | 10268611    | 6            | D          | 0.125 | 0.125 | 0.750 | 3.000 | 0.063 | 2     | Cylindrical | ■              |
| C5321-.250D6B.0Z2 | SIRA  | 10268620    | 6            | D          | 0.250 | 0.250 | 1.500 | 4.000 | 0.125 | 2     | Cylindrical | ■              |
| C5321-.375D6B.0Z2 | SIRA  | 10268628    | 6            | D          | 0.375 | 0.375 | 1.500 | 6.000 | 0.188 | 2     | Cylindrical | ■              |
| C5321-.500D6B.0Z2 | SIRA  | 10268635    | 6            | D          | 0.500 | 0.500 | 3.000 | 6.000 | 0.250 | 2     | Cylindrical | ■              |
| C5321-.313D7B.0Z2 | SIRA  | 10268624    | 7            | D          | 0.313 | 0.313 | 1.625 | 4.000 | 0.156 | 2     | Cylindrical | ■              |
| C5321-.375D7B.0Z2 | SIRA  | 10268629    | 7            | D          | 0.375 | 0.375 | 2.000 | 4.000 | 0.188 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

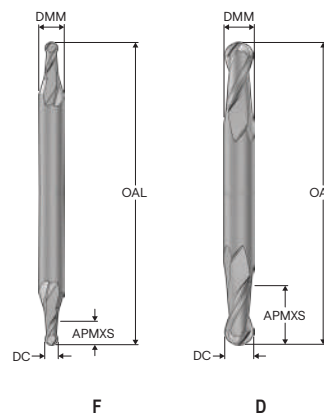
Graphite

X-Heads

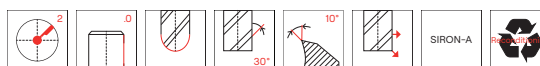
Minimaster

## C5321

General purpose – Universal – Ball nose – 2 Flutes – Cylindrical – Inch



- Tolerances:  
—DMM=  $-.0001"/-.0004"$   
—DC  $\leq \varnothing 7/64" = \pm 0.0005"$   
—DC  $> \varnothing 7/64" = +.0007"/-.002"$   
—RE=  $\pm 0.0005"$   
—Double end  
—Regrind possible if DC is  $\geq \varnothing .375$



| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |       |             |              |            | inch  | inch  | inch  | inch  | inch  |       |             |                |
| C5321-.031F2B.0Z2D | SIRA  | 10268656    | 2            | F          | 0.031 | 0.125 | 0.063 | 1.500 | 0.016 | 2     | Cylindrical | ■              |
| C5321-.047F2B.0Z2D | SIRA  | 10268657    | 2            | F          | 0.047 | 0.125 | 0.094 | 1.500 | 0.023 | 2     | Cylindrical | ■              |
| C5321-.063F2B.0Z2D | SIRA  | 10268658    | 2            | F          | 0.063 | 0.125 | 0.125 | 1.500 | 0.031 | 2     | Cylindrical | ■              |
| C5321-.078F2B.0Z2D | SIRA  | 10268659    | 2            | F          | 0.078 | 0.125 | 0.125 | 1.500 | 0.039 | 2     | Cylindrical | ■              |
| C5321-.094F2B.0Z2D | SIRA  | 10268660    | 2            | F          | 0.094 | 0.125 | 0.188 | 1.500 | 0.047 | 2     | Cylindrical | ■              |
| C5321-.125D2B.0Z2D | SIRA  | 10268661    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 0.063 | 2     | Cylindrical | ■              |
| C5321-.188D2B.0Z2D | SIRA  | 10268662    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 0.094 | 2     | Cylindrical | ■              |
| C5321-.250D2B.0Z2D | SIRA  | 10268663    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.500 | 0.125 | 2     | Cylindrical | ■              |
| C5321-.313D2B.0Z2D | SIRA  | 10268664    | 2            | D          | 0.313 | 0.313 | 0.500 | 2.500 | 0.156 | 2     | Cylindrical | ■              |

■ Stocked standard.



## Cutting data – C5321 Side milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>     |                   |                   |                   |                   |                  |                   |                  |                  |                  |                  |                 | v <sub>c</sub>                     |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|--------------------|-------------------|-------------------|-------------------|-------------------|------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|------------------------------------|
|     |                                                                                   |                    |                    | 1                  | 1,5               | 2                 | 3                 | 3,5               | 4                | 5                 | 6                | 8                | 9                | 10               | 12              |                                    |
| P1  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,004<br>0,00016   | 0,006<br>0,00024  | 0,008<br>0,00032  | 0,012<br>0,00048  | 0,014<br>0,00055  | 0,016<br>0,00065 | 0,02<br>0,00080   | 0,024<br>0,00095 | 0,032<br>0,0013  | 0,036<br>0,0014  | 0,04<br>0,0016   | 0,048<br>0,0019 | 150 (135 — 165)<br>490 (440 — 540) |
| P2  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0032<br>0,00013  | 0,0048<br>0,00019 | 0,0065<br>0,00026 | 0,0095<br>0,00038 | 0,011<br>0,00044  | 0,013<br>0,00050 | 0,016<br>0,00065  | 0,019<br>0,00075 | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013  | 0,038<br>0,0015 | 58 (45 — 70)<br>190 (147 — 230)    |
| P3  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0032<br>0,00013  | 0,0048<br>0,00019 | 0,0065<br>0,00026 | 0,0095<br>0,00038 | 0,011<br>0,00044  | 0,013<br>0,00050 | 0,016<br>0,00065  | 0,019<br>0,00075 | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013  | 0,038<br>0,0015 | 85 (70 — 95)<br>279 (246 — 312)    |
| P4  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0032<br>0,00013  | 0,0048<br>0,00019 | 0,0065<br>0,00026 | 0,0095<br>0,00038 | 0,011<br>0,00044  | 0,013<br>0,00050 | 0,016<br>0,00065  | 0,019<br>0,00075 | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013  | 0,038<br>0,0015 | 100 (90 — 110)<br>330 (295 — 360)  |
| P5  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0032<br>0,00013  | 0,0048<br>0,00019 | 0,0065<br>0,00026 | 0,0095<br>0,00038 | 0,011<br>0,00044  | 0,013<br>0,00050 | 0,016<br>0,00065  | 0,019<br>0,00075 | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013  | 0,038<br>0,0015 | 68 (50 — 75)<br>223 (165 — 245)    |
| P6  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0032<br>0,00013  | 0,0048<br>0,00019 | 0,0065<br>0,00026 | 0,0095<br>0,00038 | 0,011<br>0,00044  | 0,013<br>0,00050 | 0,016<br>0,00065  | 0,019<br>0,00075 | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013  | 0,038<br>0,0015 | 87 (77 — 100)<br>285 (250 — 330)   |
| P7  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0032<br>0,00013  | 0,0048<br>0,00019 | 0,0065<br>0,00026 | 0,0095<br>0,00038 | 0,011<br>0,00044  | 0,013<br>0,00050 | 0,016<br>0,00065  | 0,019<br>0,00075 | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013  | 0,038<br>0,0015 | 65 (55 — 75)<br>213 (180 — 245)    |
| P8  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0032<br>0,00013  | 0,0048<br>0,00019 | 0,0065<br>0,00026 | 0,0095<br>0,00038 | 0,011<br>0,00044  | 0,013<br>0,00050 | 0,016<br>0,00065  | 0,019<br>0,00075 | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013  | 0,038<br>0,0015 | 65 (55 — 75)<br>213 (165 — 245)    |
| P11 | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0032<br>0,00013  | 0,0048<br>0,00019 | 0,0065<br>0,00026 | 0,0095<br>0,00038 | 0,011<br>0,00044  | 0,013<br>0,00050 | 0,016<br>0,00065  | 0,019<br>0,00075 | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013  | 0,038<br>0,0015 | 85 (70 — 95)<br>280 (230 — 310)    |
| P12 | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0025<br>0,00010  | 0,0038<br>0,00015 | 0,005<br>0,00020  | 0,0075<br>0,00030 | 0,009<br>0,00036  | 0,01<br>0,00040  | 0,013<br>0,00050  | 0,015<br>0,00060 | 0,02<br>0,00080  | 0,022<br>0,00085 | 0,025<br>0,0010  | 0,03<br>0,0012  | 55 (45 — 65)<br>180 (147 — 213)    |
| M1  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0038<br>0,00015  | 0,0055<br>0,00022 | 0,0075<br>0,00030 | 0,011<br>0,00044  | 0,013<br>0,00050  | 0,015<br>0,00060 | 0,019<br>0,00075  | 0,022<br>0,00085 | 0,03<br>0,0012   | 0,034<br>0,0013  | 0,038<br>0,0015  | 0,044<br>0,0017 | 93 (83 — 100)<br>305 (270 — 360)   |
| M2  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0038<br>0,00015  | 0,0055<br>0,00022 | 0,0075<br>0,00030 | 0,011<br>0,00044  | 0,013<br>0,00050  | 0,015<br>0,00060 | 0,019<br>0,00075  | 0,022<br>0,00085 | 0,03<br>0,0012   | 0,034<br>0,0013  | 0,038<br>0,0015  | 0,044<br>0,0017 | 60 (50 — 70)<br>200 (165 — 230)    |
| M3  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0038<br>0,00015  | 0,0055<br>0,00022 | 0,0075<br>0,00030 | 0,011<br>0,00044  | 0,013<br>0,00050  | 0,015<br>0,00060 | 0,019<br>0,00075  | 0,022<br>0,00085 | 0,03<br>0,0012   | 0,034<br>0,0013  | 0,038<br>0,0015  | 0,044<br>0,0017 | 55 (45 — 65)<br>180 (147 — 213)    |
| M4  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0038<br>0,00015  | 0,0055<br>0,00022 | 0,0075<br>0,00030 | 0,011<br>0,00044  | 0,013<br>0,00050  | 0,015<br>0,00060 | 0,019<br>0,00075  | 0,022<br>0,00085 | 0,03<br>0,0012   | 0,034<br>0,0013  | 0,038<br>0,0015  | 0,044<br>0,0017 | 45 (35 — 55)<br>147 (115 — 180)    |
| M5  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0034<br>0,00013  | 0,005<br>0,00020  | 0,0065<br>0,00026 | 0,01<br>0,00040   | 0,012<br>0,00048  | 0,013<br>0,00050 | 0,017<br>0,00065  | 0,02<br>0,00080  | 0,026<br>0,0010  | 0,03<br>0,0012   | 0,034<br>0,0013  | 0,04<br>0,0016  | 35 (20 — 45)<br>114 (65 — 147)     |
| K1  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0032<br>0,00013  | 0,0048<br>0,00019 | 0,0065<br>0,00026 | 0,0095<br>0,00038 | 0,011<br>0,00044  | 0,013<br>0,00050 | 0,016<br>0,00065  | 0,019<br>0,00075 | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013  | 0,038<br>0,0015 | 80 (70 — 90)<br>260 (230 — 290)    |
| K2  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0044<br>0,00017  | 0,0065<br>0,00026 | 0,0085<br>0,00034 | 0,013<br>0,00050  | 0,015<br>0,00060  | 0,017<br>0,00065 | 0,022<br>0,00085  | 0,026<br>0,0010  | 0,034<br>0,0013  | 0,04<br>0,0016   | 0,044<br>0,0017  | 0,05<br>0,0020  | 87 (75 — 100)<br>285 (245 — 330)   |
| K3  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0032<br>0,00013  | 0,0048<br>0,00019 | 0,0065<br>0,00026 | 0,0095<br>0,00038 | 0,011<br>0,00044  | 0,013<br>0,00050 | 0,016<br>0,00065  | 0,019<br>0,00075 | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013  | 0,038<br>0,0015 | 65 (55 — 75)<br>213 (180 — 245)    |
| K4  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0032<br>0,00013  | 0,0048<br>0,00019 | 0,0065<br>0,00026 | 0,0095<br>0,00038 | 0,011<br>0,00044  | 0,013<br>0,00050 | 0,016<br>0,00065  | 0,019<br>0,00075 | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013  | 0,038<br>0,0015 | 50 (35 — 65)<br>165 (115 — 213)    |
| K5  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0032<br>0,00013  | 0,0048<br>0,00019 | 0,0065<br>0,00026 | 0,0095<br>0,00038 | 0,011<br>0,00044  | 0,013<br>0,00050 | 0,016<br>0,00065  | 0,019<br>0,00075 | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013  | 0,038<br>0,0015 | 45 (30 — 55)<br>147 (100 — 180)    |
| K6  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0032<br>0,00013  | 0,0048<br>0,00019 | 0,0065<br>0,00026 | 0,0095<br>0,00038 | 0,011<br>0,00044  | 0,013<br>0,00050 | 0,016<br>0,00065  | 0,019<br>0,00075 | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013  | 0,038<br>0,0015 | 77 (65 — 85)<br>250 (210 — 280)    |
| K7  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0032<br>0,00013  | 0,0048<br>0,00019 | 0,0065<br>0,00026 | 0,0095<br>0,00038 | 0,011<br>0,00044  | 0,013<br>0,00050 | 0,016<br>0,00065  | 0,019<br>0,00075 | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013  | 0,038<br>0,0015 | 77 (60 — 90)<br>250 (200 — 290)    |
| S1  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,004<br>0,00016   | 0,006<br>0,00024  | 0,008<br>0,00032  | 0,012<br>0,00048  | 0,014<br>0,00055  | 0,016<br>0,00065 | 0,02<br>0,00080   | 0,024<br>0,00095 | 0,032<br>0,0013  | 0,036<br>0,0014  | 0,04<br>0,0016   | 0,048<br>0,0019 | 50 (35 — 60)<br>165 (115 — 200)    |
| S2  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0028<br>0,00011  | 0,004<br>0,00016  | 0,0055<br>0,00022 | 0,008<br>0,00032  | 0,0095<br>0,00038 | 0,011<br>0,00044 | 0,014<br>0,00055  | 0,016<br>0,00065 | 0,022<br>0,00085 | 0,025<br>0,0010  | 0,028<br>0,0011  | 0,032<br>0,0013 | 25 (15 — 35)<br>82 (50 — 115)      |
| S3  | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0017<br>0,000065 | 0,0026<br>0,00010 | 0,0034<br>0,00013 | 0,005<br>0,00020  | 0,006<br>0,00024  | 0,007<br>0,00028 | 0,0085<br>0,00034 | 0,01<br>0,00040  | 0,014<br>0,00055 | 0,015<br>0,00060 | 0,017<br>0,00065 | 0,02<br>0,00080 | 11 (7,5 — 16)<br>35 (25 — 52)      |
| S11 | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0038<br>0,00015  | 0,0055<br>0,00022 | 0,0075<br>0,00030 | 0,011<br>0,00044  | 0,013<br>0,00050  | 0,015<br>0,00060 | 0,019<br>0,00075  | 0,022<br>0,00085 | 0,03<br>0,0012   | 0,034<br>0,0013  | 0,038<br>0,0015  | 0,044<br>0,0017 | 110 (95 — 120)<br>360 (311 — 390)  |
| S12 | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0025<br>0,00010  | 0,0038<br>0,00015 | 0,005<br>0,00020  | 0,0075<br>0,00030 | 0,009<br>0,00036  | 0,01<br>0,00040  | 0,013<br>0,00050  | 0,015<br>0,00060 | 0,02<br>0,00080  | 0,022<br>0,00085 | 0,025<br>0,0010  | 0,03<br>0,0012  | 77 (60 — 90)<br>250 (190 — 290)    |
| S13 | E                                                                                 | 0,10<br>0,10       | 1,0<br>1,0         | 0,0025<br>0,00010  | 0,0038<br>0,00015 | 0,005<br>0,00020  | 0,0075<br>0,00030 | 0,009<br>0,00036  | 0,01<br>0,00040  | 0,013<br>0,00050  | 0,015<br>0,00060 | 0,02<br>0,00080  | 0,022<br>0,00085 | 0,025<br>0,0010  | 0,03<br>0,0012  | 30 (20 — 40)<br>100 (65 — 130)     |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – C5321 Side milling roughing – Inch

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |         |         |         |         |         |        |        |        |                 | v <sub>c</sub> |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|-----------------|----------------|
|     |                                                                                   |                    |                    | 1/32           | 1/16    | 1/8     | 1/6     | 1/5     | 2/9     | 1/4     | 1/3     | 3/8     | 1/2     | 5/8    | 3/4    | 1      |                 |                |
| P1  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0065  | 0,013   | 0,016   | 0,019   | 0,022   | 0,026   | 0,032   | 0,038   | 0,05    | 0,06   | 0,065  | 0,08   | 150 (135 — 165) |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00013        | 0,00026 | 0,00050 | 0,00065 | 0,00075 | 0,00085 | 0,0010  | 0,0013  | 0,0015  | 0,0020  | 0,0024 | 0,0026 | 0,0032 | 490 (440— 540)  |                |
| P2  | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,005   | 0,01    | 0,013   | 0,015   | 0,018   | 0,02    | 0,026   | 0,03    | 0,04    | 0,046  | 0,055  | 0,06   | 58 (45— 70)     |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00020 | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0018 | 0,0022 | 0,0024 | 190 (147 — 230) |                |
| P3  | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,005   | 0,01    | 0,013   | 0,015   | 0,018   | 0,02    | 0,026   | 0,03    | 0,04    | 0,046  | 0,055  | 0,06   | 85 (70 — 95)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00020 | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0018 | 0,0022 | 0,0024 | 279 (246 — 312) |                |
| P4  | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,005   | 0,01    | 0,013   | 0,015   | 0,018   | 0,02    | 0,026   | 0,03    | 0,04    | 0,046  | 0,055  | 0,06   | 100 (90 — 110)  |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00020 | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0018 | 0,0022 | 0,0024 | 330 (295 — 360) |                |
| P5  | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,005   | 0,01    | 0,013   | 0,015   | 0,018   | 0,02    | 0,026   | 0,03    | 0,04    | 0,046  | 0,055  | 0,06   | 68 (50 — 75)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00020 | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0018 | 0,0022 | 0,0024 | 223 (165 — 245) |                |
| P6  | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,005   | 0,01    | 0,013   | 0,015   | 0,018   | 0,02    | 0,026   | 0,03    | 0,04    | 0,046  | 0,055  | 0,06   | 87 (77 — 100)   |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00020 | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0018 | 0,0022 | 0,0024 | 285 (250 — 330) |                |
| P7  | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,005   | 0,01    | 0,013   | 0,015   | 0,018   | 0,02    | 0,026   | 0,03    | 0,04    | 0,046  | 0,055  | 0,06   | 65 (55 — 75)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00020 | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0018 | 0,0022 | 0,0024 | 213 (180 — 245) |                |
| P8  | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,005   | 0,01    | 0,013   | 0,015   | 0,018   | 0,02    | 0,026   | 0,03    | 0,04    | 0,046  | 0,055  | 0,06   | 65 (55 — 75)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00020 | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0018 | 0,0022 | 0,0024 | 213 (165 — 245) |                |
| P11 | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,005   | 0,01    | 0,013   | 0,015   | 0,018   | 0,02    | 0,026   | 0,03    | 0,04    | 0,046  | 0,055  | 0,06   | 85 (70 — 95)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00020 | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0018 | 0,0022 | 0,0024 | 280 (230 — 310) |                |
| P12 | E                                                                                 | 0,10               | 1,0                | 0,002          | 0,004   | 0,008   | 0,01    | 0,012   | 0,014   | 0,016   | 0,02    | 0,024   | 0,032   | 0,038  | 0,042  | 0,05   | 55 (45— 65)     |                |
|     |                                                                                   | 0,10               | 1,0                | 0,000080       | 0,00016 | 0,00032 | 0,00040 | 0,00048 | 0,00055 | 0,00065 | 0,00080 | 0,00095 | 0,0013  | 0,0015 | 0,0017 | 0,0020 | 180 (147 — 213) |                |
| M1  | E                                                                                 | 0,10               | 1,0                | 0,003          | 0,006   | 0,012   | 0,015   | 0,018   | 0,02    | 0,024   | 0,03    | 0,036   | 0,046   | 0,055  | 0,06   | 0,07   | 93 (83 — 100)   |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00012        | 0,00024 | 0,00048 | 0,00060 | 0,00070 | 0,00080 | 0,00095 | 0,0012  | 0,0014  | 0,0018  | 0,0022 | 0,0024 | 0,0028 | 305 (270 — 360) |                |
| M2  | E                                                                                 | 0,10               | 1,0                | 0,003          | 0,006   | 0,012   | 0,015   | 0,018   | 0,02    | 0,024   | 0,03    | 0,036   | 0,046   | 0,055  | 0,06   | 0,07   | 60 (50 — 70)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00012        | 0,00024 | 0,00048 | 0,00060 | 0,00070 | 0,00080 | 0,00095 | 0,0012  | 0,0014  | 0,0018  | 0,0022 | 0,0024 | 0,0028 | 200 (165 — 230) |                |
| M3  | E                                                                                 | 0,10               | 1,0                | 0,003          | 0,006   | 0,012   | 0,015   | 0,018   | 0,02    | 0,024   | 0,03    | 0,036   | 0,046   | 0,055  | 0,06   | 0,07   | 55 (45— 65)     |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00012        | 0,00024 | 0,00048 | 0,00060 | 0,00070 | 0,00080 | 0,00095 | 0,0012  | 0,0014  | 0,0018  | 0,0022 | 0,0024 | 0,0028 | 180 (147 — 213) |                |
| M4  | E                                                                                 | 0,10               | 1,0                | 0,003          | 0,006   | 0,012   | 0,015   | 0,018   | 0,02    | 0,024   | 0,03    | 0,036   | 0,046   | 0,055  | 0,06   | 0,07   | 45 (35 — 55)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00012        | 0,00024 | 0,00048 | 0,00060 | 0,00070 | 0,00080 | 0,00095 | 0,0012  | 0,0014  | 0,0018  | 0,0022 | 0,0024 | 0,0028 | 147 (115 — 180) |                |
| M5  | E                                                                                 | 0,10               | 1,0                | 0,0026         | 0,0055  | 0,011   | 0,013   | 0,016   | 0,019   | 0,022   | 0,026   | 0,032   | 0,042   | 0,048  | 0,055  | 0,065  | 35 (20 — 45)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00022 | 0,00044 | 0,00050 | 0,00065 | 0,00075 | 0,00085 | 0,0010  | 0,0013  | 0,0017  | 0,0019 | 0,0022 | 0,0026 | 114 (65 — 147)  |                |
| K1  | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,005   | 0,01    | 0,013   | 0,015   | 0,018   | 0,02    | 0,026   | 0,03    | 0,04    | 0,046  | 0,055  | 0,06   | 80 (70 — 90)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00020 | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0018 | 0,0022 | 0,0024 | 260 (230 — 290) |                |
| K2  | E                                                                                 | 0,10               | 1,0                | 0,0034         | 0,007   | 0,014   | 0,017   | 0,02    | 0,024   | 0,028   | 0,034   | 0,042   | 0,055   | 0,065  | 0,07   | 0,085  | 87 (75 — 100)   |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00013        | 0,00028 | 0,00055 | 0,00065 | 0,00080 | 0,00095 | 0,0011  | 0,0013  | 0,0017  | 0,0022  | 0,0026 | 0,0028 | 0,0034 | 285 (245 — 330) |                |
| K3  | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,005   | 0,01    | 0,013   | 0,015   | 0,018   | 0,02    | 0,026   | 0,03    | 0,04    | 0,046  | 0,055  | 0,06   | 65 (55 — 75)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00020 | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0018 | 0,0022 | 0,0024 | 213 (180 — 245) |                |
| K4  | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,005   | 0,01    | 0,013   | 0,015   | 0,018   | 0,02    | 0,026   | 0,03    | 0,04    | 0,046  | 0,055  | 0,06   | 50 (35 — 65)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00020 | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0018 | 0,0022 | 0,0024 | 165 (115 — 213) |                |
| K5  | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,005   | 0,01    | 0,013   | 0,015   | 0,018   | 0,02    | 0,026   | 0,03    | 0,04    | 0,046  | 0,055  | 0,06   | 45 (30 — 55)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00020 | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0018 | 0,0022 | 0,0024 | 147 (100 — 180) |                |
| K6  | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,005   | 0,01    | 0,013   | 0,015   | 0,018   | 0,02    | 0,026   | 0,03    | 0,04    | 0,046  | 0,055  | 0,06   | 77 (65 — 85)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00020 | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0018 | 0,0022 | 0,0024 | 250 (210 — 280) |                |
| K7  | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,005   | 0,01    | 0,013   | 0,015   | 0,018   | 0,02    | 0,026   | 0,03    | 0,04    | 0,046  | 0,055  | 0,06   | 77 (60 — 90)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00010        | 0,00020 | 0,00040 | 0,00050 | 0,00060 | 0,00070 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0018 | 0,0022 | 0,0024 | 250 (200 — 290) |                |
| S1  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0065  | 0,013   | 0,016   | 0,019   | 0,022   | 0,026   | 0,032   | 0,038   | 0,05    | 0,06   | 0,065  | 0,08   | 50 (35 — 60)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00013        | 0,00026 | 0,00050 | 0,00065 | 0,00075 | 0,00085 | 0,0010  | 0,0013  | 0,0015  | 0,0020  | 0,0024 | 0,0026 | 0,0032 | 165 (115 — 200) |                |
| S2  | E                                                                                 | 0,10               | 1,0                | 0,0022         | 0,0044  | 0,009   | 0,011   | 0,013   | 0,015   | 0,018   | 0,022   | 0,026   | 0,034   | 0,04   | 0,044  | 0,055  | 25 (15 — 35)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,000085       | 0,00017 | 0,00036 | 0,00044 | 0,00050 | 0,00060 | 0,00070 | 0,00085 | 0,0010  | 0,0013  | 0,0016 | 0,0017 | 0,0022 | 82 (50 — 115)   |                |
| S3  | E                                                                                 | 0,10               | 1,0                | 0,0014         | 0,0028  | 0,0055  | 0,007   | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,025  | 0,028  | 0,034  | 11 (7,5 — 16)   |                |
|     |                                                                                   | 0,10               | 1,0                | 0,000055       | 0,00011 | 0,00022 | 0,00028 | 0,00032 | 0,00038 | 0,00044 | 0,00055 | 0,00065 | 0,00085 | 0,0010 | 0,0011 | 0,0013 | 35 (25 — 52)    |                |
| S11 | E                                                                                 | 0,10               | 1,0                | 0,003          | 0,006   | 0,012   | 0,015   | 0,018   | 0,02    | 0,024   | 0,03    | 0,036   | 0,046   | 0,055  | 0,06   | 0,07   | 110 (95— 120)   |                |
|     |                                                                                   | 0,10               | 1,0                | 0,00012        | 0,00024 | 0,00048 | 0,00060 | 0,00070 | 0,00080 | 0,00095 | 0,0012  | 0,0014  | 0,0018  | 0,0022 | 0,0024 | 0,0028 | 360 (311 — 390) |                |
| S12 | E                                                                                 | 0,10               | 1,0                | 0,002          | 0,004   | 0,008   | 0,01    | 0,012   | 0,014   | 0,016   | 0,02    | 0,024   | 0,032   | 0,038  | 0,042  | 0,05   | 77 (60 — 90)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,000080       | 0,00016 | 0,00032 | 0,00040 | 0,00048 | 0,00055 | 0,00065 | 0,00080 | 0,00095 | 0,0013  | 0,0015 | 0,0017 | 0,0020 | 250 (190 — 290) |                |
| S13 | E                                                                                 | 0,10               | 1,0                | 0,002          | 0,004   | 0,008   | 0,01    | 0,012   | 0,014   | 0,016   | 0,02    | 0,024   | 0,032   | 0,038  | 0,042  | 0,05   | 30 (20 — 40)    |                |
|     |                                                                                   | 0,10               | 1,0                | 0,000080       | 0,00016 | 0,00032 | 0,00040 | 0,00048 | 0,00055 | 0,00065 | 0,00080 | 0,00095 | 0,0013  | 0,0015 | 0,0017 | 0,0020 | 100 (65 — 130)  |                |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

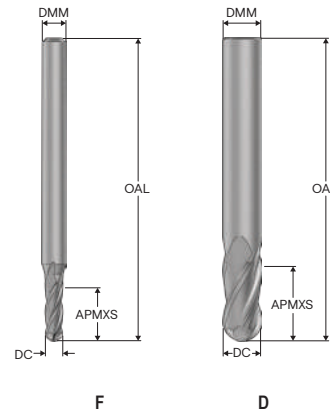
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

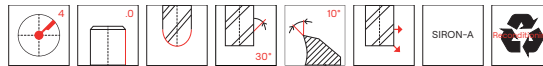
All cutting data are target values

## C5341

General purpose – Universal – Ball nose – 4 Flutes – Cylindrical



- Tolerances:
- DMM=h5
- DC= h10
- RE=  $\pm 0,01$  mm
- Regrind possible if DC is  $\geq \varnothing 10$



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE   | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|-------|-------------|----------------|
|                  |       |             |              |            | mm   | mm   | mm    | mm    | mm   |       |             |                |
| C5341-020F2B.0Z4 | SIRA  | 10268568    | 2            | F          | 2,0  | 3,0  | 4,0   | 39,0  | 1,0  | 4     | Cylindrical | ■              |
| C5341-030D2B.0Z4 | SIRA  | 10268570    | 2            | D          | 3,0  | 3,0  | 6,0   | 39,0  | 1,5  | 4     | Cylindrical | ■              |
| C5341-040D2B.0Z4 | SIRA  | 10268573    | 2            | D          | 4,0  | 4,0  | 8,0   | 50,0  | 2,0  | 4     | Cylindrical | ■              |
| C5341-050F2B.0Z4 | SIRA  | 10268575    | 2            | D          | 5,0  | 6,0  | 10,0  | 57,0  | 2,5  | 4     | Cylindrical | ■              |
| C5341-060D1B.0Z4 | SIRA  | 10268577    | 2            | D          | 6,0  | 6,0  | 9,0   | 51,0  | 3,0  | 4     | Cylindrical | ■              |
| C5341-060D2B.0Z4 | SIRA  | 10268578    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | 3,0  | 4     | Cylindrical | ■              |
| C5341-080D2B.0Z4 | SIRA  | 10268580    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | 4,0  | 4     | Cylindrical | ■              |
| C5341-090F2B.0Z4 | SIRA  | 10268581    | 2            | F          | 9,0  | 10,0 | 22,0  | 72,0  | 4,5  | 4     | Cylindrical | ■              |
| C5341-100D2B.0Z4 | SIRA  | 10268582    | 2            | D          | 10,0 | 10,0 | 22,0  | 73,0  | 5,0  | 4     | Cylindrical | ■              |
| C5341-120D2B.0Z4 | SIRA  | 10268584    | 2            | D          | 12,0 | 12,0 | 25,0  | 74,0  | 6,0  | 4     | Cylindrical | ■              |
| C5341-160D2B.0Z4 | SIRA  | 10268586    | 2            | D          | 16,0 | 16,0 | 32,0  | 92,0  | 8,0  | 4     | Cylindrical | ■              |
| C5341-200D2B.0Z4 | SIRA  | 10268588    | 2            | D          | 20,0 | 20,0 | 35,0  | 104,0 | 10,0 | 4     | Cylindrical | ■              |
| C5341-015F3B.0Z4 | SIRA  | 10268567    | 3            | F          | 1,5  | 3,0  | 4,5   | 38,0  | 0,75 | 4     | Cylindrical | ■              |
| C5341-020F3B.0Z4 | SIRA  | 10268569    | 3            | F          | 2,0  | 3,0  | 6,3   | 38,0  | 1,0  | 4     | Cylindrical | ■              |
| C5341-035F3B.0Z4 | SIRA  | 10268572    | 3            | F          | 3,5  | 4,0  | 12,0  | 50,0  | 1,5  | 4     | Cylindrical | ■              |
| C5341-050F3B.0Z4 | SIRA  | 10268576    | 3            | F          | 5,0  | 6,0  | 16,0  | 51,0  | 2,5  | 4     | Cylindrical | ■              |
| C5341-060D3B.0Z4 | SIRA  | 10268579    | 3            | D          | 6,0  | 6,0  | 19,0  | 51,0  | 3,0  | 4     | Cylindrical | ■              |
| C5341-160D3B.0Z4 | SIRA  | 10268587    | 3            | D          | 16,0 | 16,0 | 50,0  | 115,0 | 8,0  | 4     | Cylindrical | ■              |
| C5341-200D3B.0Z4 | SIRA  | 10268589    | 3            | D          | 20,0 | 20,0 | 60,0  | 125,0 | 10,0 | 4     | Cylindrical | ■              |
| C5341-010F4B.0Z4 | SIRA  | 10268566    | 4            | F          | 1,0  | 3,0  | 4,0   | 39,0  | 0,5  | 4     | Cylindrical | ■              |
| C5341-030D4B.0Z4 | SIRA  | 10268571    | 4            | D          | 3,0  | 3,0  | 12,0  | 39,0  | 1,5  | 4     | Cylindrical | ■              |
| C5341-040D4B.0Z4 | SIRA  | 10268574    | 4            | D          | 4,0  | 4,0  | 14,0  | 51,0  | 2,0  | 4     | Cylindrical | ■              |
| C5341-100D4B.0Z4 | SIRA  | 10268583    | 4            | D          | 10,0 | 10,0 | 35,0  | 89,0  | 5,0  | 4     | Cylindrical | ■              |
| C5341-120D4B.0Z4 | SIRA  | 10268585    | 4            | D          | 12,0 | 12,0 | 50,0  | 100,0 | 6,0  | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

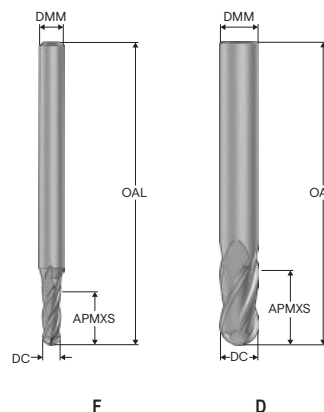
Graphite

X-Heads

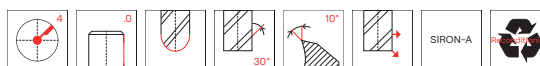
Minimaster

## C5341

General purpose – Universal – Ball nose – 4 Flutes – Cylindrical – Inch



—Tolerances:  
—DMM=+.0001"/-.0004"  
—DC ≤ Ø7/64" = ±.0005"  
—DC > Ø7/64" = +.000"/-.002"  
—RE= ±.0005"  
—Reground possible if DC is ≥Ø.375

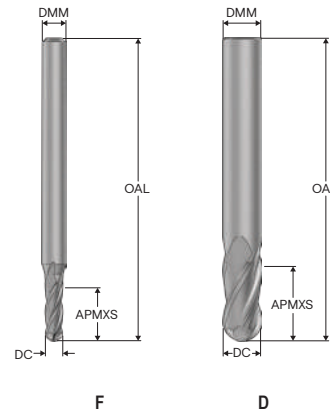


| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |       |             |              |            | inch  | inch  | inch  | inch  | inch  |       |             |                |
| C5341-.500D1B.0Z4  | SIRA  | 10268532    | 1            | D          | 0.500 | 0.500 | 0.625 | 2.500 | 0.250 | 4     | Cylindrical | ■              |
| C5341-.625D1B.0Z4  | SIRA  | 10268539    | 1            | D          | 0.625 | 0.625 | 0.750 | 3.000 | 0.313 | 4     | Cylindrical | ■              |
| C5341-.750D1B.0Z4  | SIRA  | 10268543    | 1            | D          | 0.750 | 0.750 | 1.000 | 3.000 | 0.375 | 4     | Cylindrical | ■              |
| C5341-.016F2B.0Z4  | SIRA  | 10268474    | 2            | F          | 0.016 | 0.125 | 0.031 | 1.500 | 0.008 | 4     | Cylindrical | ■              |
| C5341-.047F2B.0Z4  | SIRA  | 10268477    | 2            | F          | 0.047 | 0.125 | 0.109 | 1.500 | 0.023 | 4     | Cylindrical | ■              |
| C5341-.063F2B.0Z4  | SIRA  | 10268479    | 2            | F          | 0.063 | 0.125 | 0.125 | 1.500 | 0.031 | 4     | Cylindrical | ■              |
| C5341-.078F2B.0Z4  | SIRA  | 10268483    | 2            | F          | 0.078 | 0.125 | 0.188 | 1.500 | 0.039 | 4     | Cylindrical | ■              |
| C5341-.094F2B.0Z4  | SIRA  | 10268485    | 2            | F          | 0.094 | 0.125 | 0.188 | 1.500 | 0.047 | 4     | Cylindrical | ■              |
| C5341-.125D2B.0Z4  | SIRA  | 10268490    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 0.063 | 4     | Cylindrical | ■              |
| C5341-.156F2B.0Z4  | SIRA  | 10268497    | 2            | F          | 0.156 | 0.188 | 0.313 | 2.000 | 0.078 | 4     | Cylindrical | ■              |
| C5341-.188D2B.0Z4  | SIRA  | 10268500    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 0.094 | 4     | Cylindrical | ■              |
| C5341-.250D2B.0Z4  | SIRA  | 10268508    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.000 | 0.125 | 4     | Cylindrical | ■              |
| C5341-.313D2B.0Z4  | SIRA  | 10268515    | 2            | D          | 0.313 | 0.313 | 0.500 | 2.000 | 0.156 | 4     | Cylindrical | ■              |
| C5341-.375D2B.0Z4  | SIRA  | 10268521    | 2            | D          | 0.375 | 0.375 | 0.625 | 2.000 | 0.188 | 4     | Cylindrical | ■              |
| C5341-.406F2B.0Z4  | SIRA  | 10268528    | 2            | F          | 0.406 | 0.438 | 1.000 | 2.750 | 0.203 | 4     | Cylindrical | ■              |
| C5341-.438D2B.0Z4  | SIRA  | 10268529    | 2            | D          | 0.438 | 0.438 | 1.000 | 2.750 | 0.219 | 4     | Cylindrical | ■              |
| C5341-.500D2B.0Z4  | SIRA  | 10268533    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.250 | 4     | Cylindrical | ■              |
| C5341-.563D2B.0Z4  | SIRA  | 10268538    | 2            | D          | 0.563 | 0.563 | 1.125 | 3.500 | 0.281 | 4     | Cylindrical | ■              |
| C5341-.625D2B.0Z4  | SIRA  | 10268540    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.313 | 4     | Cylindrical | ■              |
| C5341-.750D2B.0Z4  | SIRA  | 10268544    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.375 | 4     | Cylindrical | ■              |
| C5341-.875D2B.0Z4  | SIRA  | 10268548    | 2            | D          | 0.875 | 0.875 | 1.500 | 4.000 | 0.438 | 4     | Cylindrical | ■              |
| C5341-1.000D2B.0Z4 | SIRA  | 10268549    | 2            | D          | 1.000 | 1.000 | 1.500 | 4.000 | 0.500 | 4     | Cylindrical | ■              |

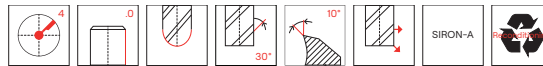
■ Stocked standard.

## C5341

General purpose – Universal – Ball nose – 4 Flutes – Cylindrical – Inch



- Tolerances:
- DMM=  $-.0001"/-0.0004"$
- DC  $\leq \varnothing 7/64" = \pm 0.0005"$
- DC  $> \varnothing 7/64" = +0.000"/-0.002"$
- RE=  $\pm 0.0005"$
- Regrind possible if DC is  $\geq \varnothing .375$



| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |       |             |              |            | inch  | inch  | inch  | inch  | inch  |       |             |                |
| C5341-.031F3B.0Z4  | SIRA  | 10268475    | 3            | F          | 0.031 | 0.125 | 0.078 | 1.500 | 0.016 | 4     | Cylindrical | ■              |
| C5341-.047F3B.0Z4  | SIRA  | 10268478    | 3            | F          | 0.047 | 0.125 | 0.125 | 1.500 | 0.023 | 4     | Cylindrical | ■              |
| C5341-.063F3B.0Z4  | SIRA  | 10268480    | 3            | F          | 0.063 | 0.125 | 0.188 | 1.500 | 0.031 | 4     | Cylindrical | ■              |
| C5341-.078F3B.0Z4  | SIRA  | 10268484    | 3            | F          | 0.078 | 0.125 | 0.250 | 1.500 | 0.039 | 4     | Cylindrical | ■              |
| C5341-.094F3B.0Z4  | SIRA  | 10268486    | 3            | F          | 0.094 | 0.125 | 0.281 | 1.500 | 0.047 | 4     | Cylindrical | ■              |
| C5341-.109F3B.0Z4  | SIRA  | 10268489    | 3            | F          | 0.109 | 0.125 | 0.375 | 1.500 | 0.055 | 4     | Cylindrical | ■              |
| C5341-.156F3B.0Z4  | SIRA  | 10268498    | 3            | F          | 0.156 | 0.188 | 0.500 | 2.000 | 0.078 | 4     | Cylindrical | ■              |
| C5341-.188D3B.0Z4  | SIRA  | 10268501    | 3            | D          | 0.188 | 0.188 | 0.625 | 2.000 | 0.094 | 4     | Cylindrical | ■              |
| C5341-.203F3B.0Z4  | SIRA  | 10268505    | 3            | F          | 0.203 | 0.250 | 0.625 | 2.500 | 0.102 | 4     | Cylindrical | ■              |
| C5341-.219F3B.0Z4  | SIRA  | 10268506    | 3            | F          | 0.219 | 0.250 | 0.625 | 2.500 | 0.109 | 4     | Cylindrical | ■              |
| C5341-.234F3B.0Z4  | SIRA  | 10268507    | 3            | F          | 0.234 | 0.250 | 0.750 | 2.500 | 0.117 | 4     | Cylindrical | ■              |
| C5341-.250D3B.0Z4  | SIRA  | 10268509    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.125 | 4     | Cylindrical | ■              |
| C5341-.281F3B.0Z4  | SIRA  | 10268514    | 3            | F          | 0.281 | 0.313 | 0.750 | 2.500 | 0.141 | 4     | Cylindrical | ■              |
| C5341-.313D3B.0Z4  | SIRA  | 10268516    | 3            | D          | 0.313 | 0.313 | 0.813 | 2.500 | 0.156 | 4     | Cylindrical | ■              |
| C5341-.328F3B.0Z4  | SIRA  | 10268519    | 3            | F          | 0.328 | 0.375 | 1.000 | 2.500 | 0.164 | 4     | Cylindrical | ■              |
| C5341-.344F3B.0Z4  | SIRA  | 10268520    | 3            | F          | 0.344 | 0.375 | 1.000 | 2.500 | 0.172 | 4     | Cylindrical | ■              |
| C5341-.375D3B.0Z4  | SIRA  | 10268522    | 3            | D          | 0.375 | 0.375 | 1.000 | 2.500 | 0.188 | 4     | Cylindrical | ■              |
| C5341-.438D3B.0Z4  | SIRA  | 10268530    | 3            | D          | 0.438 | 0.438 | 1.000 | 4.000 | 0.219 | 4     | Cylindrical | ■              |
| C5341-.500D3B.0Z4  | SIRA  | 10268534    | 3            | D          | 0.500 | 0.500 | 1.000 | 4.000 | 0.250 | 4     | Cylindrical | ■              |
| C5341-.625D3B.0Z4  | SIRA  | 10268541    | 3            | D          | 0.625 | 0.625 | 2.000 | 6.000 | 0.313 | 4     | Cylindrical | ■              |
| C5341-.750D3B.0Z4  | SIRA  | 10268545    | 3            | D          | 0.750 | 0.750 | 2.000 | 6.000 | 0.375 | 4     | Cylindrical | ■              |
| C5341-1.000D3B.0Z4 | SIRA  | 10268550    | 3            | D          | 1.000 | 1.000 | 2.000 | 6.000 | 0.500 | 4     | Cylindrical | ■              |
| C5341-.031F4B.0Z4  | SIRA  | 10268476    | 4            | F          | 0.031 | 0.125 | 0.094 | 1.500 | 0.016 | 4     | Cylindrical | ■              |
| C5341-.063F4B.0Z4  | SIRA  | 10268481    | 4            | F          | 0.063 | 0.125 | 0.250 | 1.500 | 0.031 | 4     | Cylindrical | ■              |
| C5341-.094F4B.0Z4  | SIRA  | 10268487    | 4            | F          | 0.094 | 0.125 | 0.375 | 1.500 | 0.047 | 4     | Cylindrical | ■              |
| C5341-.125D4B.0Z4  | SIRA  | 10268491    | 4            | D          | 0.125 | 0.125 | 0.500 | 1.500 | 0.063 | 4     | Cylindrical | ■              |
| C5341-.141F4B.0Z4  | SIRA  | 10268496    | 4            | F          | 0.141 | 0.188 | 0.500 | 2.000 | 0.070 | 4     | Cylindrical | ■              |
| C5341-.172F4B.0Z4  | SIRA  | 10268499    | 4            | F          | 0.172 | 0.188 | 0.625 | 2.000 | 0.086 | 4     | Cylindrical | ■              |
| C5341-.188D4B.0Z4  | SIRA  | 10268502    | 4            | D          | 0.188 | 0.188 | 1.000 | 3.000 | 0.094 | 4     | Cylindrical | ■              |
| C5341-.250D4B.0Z4  | SIRA  | 10268510    | 4            | D          | 0.250 | 0.250 | 1.000 | 3.000 | 0.125 | 4     | Cylindrical | ■              |
| C5341-.313D4B.0Z4  | SIRA  | 10268517    | 4            | D          | 0.313 | 0.313 | 1.000 | 3.000 | 0.156 | 4     | Cylindrical | ■              |
| C5341-.375D4B.0Z4  | SIRA  | 10268523    | 4            | D          | 0.375 | 0.375 | 1.000 | 3.000 | 0.188 | 4     | Cylindrical | ■              |
| C5341-.500D4B.0Z4  | SIRA  | 10268535    | 4            | D          | 0.500 | 0.500 | 1.500 | 6.000 | 0.250 | 4     | Cylindrical | ■              |
| C5341-.750D4B.0Z4  | SIRA  | 10268546    | 4            | D          | 0.750 | 0.750 | 3.000 | 6.000 | 0.375 | 4     | Cylindrical | ■              |
| C5341-1.000D4B.0Z4 | SIRA  | 10268551    | 4            | D          | 1.000 | 1.000 | 3.000 | 6.000 | 0.500 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

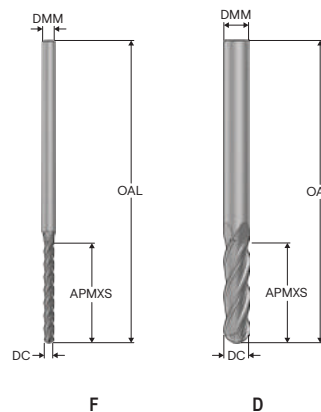
Graphite

X-Heads

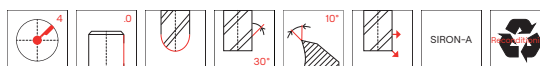
Minimaster

## C5341

General purpose – Universal – Ball nose – 4 Flutes – Cylindrical – Inch



—Tolerances:  
—DMM=+.0001"/-.0004"  
—DC ≤ Ø7/64" = ±.0005"  
—DC > Ø7/64" = +.000"/-.002"  
—RE= ±.0005"  
—Reground possible if DC is ≥Ø.375

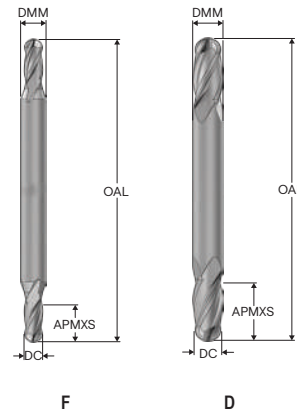


| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |       |             |              |            | inch  | inch  | inch  | inch  | inch  |       |             |                |
| C5341-.125D5B.0Z4  | SIRA  | 10268492    | 5            | D          | 0.125 | 0.125 | 0.625 | 2.000 | 0.063 | 4     | Cylindrical | ■              |
| C5341-.188D5B.0Z4  | SIRA  | 10268503    | 5            | D          | 0.188 | 0.188 | 1.000 | 4.000 | 0.094 | 4     | Cylindrical | ■              |
| C5341-.250D5B.0Z4  | SIRA  | 10268511    | 5            | D          | 0.250 | 0.250 | 1.000 | 4.000 | 0.125 | 4     | Cylindrical | ■              |
| C5341-.375D5B.0Z4  | SIRA  | 10268524    | 5            | D          | 0.375 | 0.375 | 1.000 | 4.000 | 0.188 | 4     | Cylindrical | ■              |
| C5341-.500D5B.0Z4  | SIRA  | 10268536    | 5            | D          | 0.500 | 0.500 | 2.000 | 4.000 | 0.250 | 4     | Cylindrical | ■              |
| C5341-.625D5B.0Z4  | SIRA  | 10268542    | 5            | D          | 0.625 | 0.625 | 3.000 | 6.000 | 0.313 | 4     | Cylindrical | ■              |
| C5341-.750D5B.0Z4  | SIRA  | 10268547    | 5            | D          | 0.750 | 0.750 | 4.000 | 6.000 | 0.375 | 4     | Cylindrical | ■              |
| C5341-1.000D5B.0Z4 | SIRA  | 10268552    | 5            | D          | 1.000 | 1.000 | 4.000 | 7.000 | 0.500 | 4     | Cylindrical | ■              |
| C5341-.125D6B.0Z4  | SIRA  | 10268493    | 6            | D          | 0.125 | 0.125 | 0.750 | 3.000 | 0.063 | 4     | Cylindrical | ■              |
| C5341-.188D6B.0Z4  | SIRA  | 10268504    | 6            | D          | 0.188 | 0.188 | 1.125 | 3.000 | 0.094 | 4     | Cylindrical | ■              |
| C5341-.250D6B.0Z4  | SIRA  | 10268512    | 6            | D          | 0.250 | 0.250 | 1.500 | 4.000 | 0.125 | 4     | Cylindrical | ■              |
| C5341-.313D6B.0Z4  | SIRA  | 10268518    | 6            | D          | 0.313 | 0.313 | 1.500 | 6.000 | 0.156 | 4     | Cylindrical | ■              |
| C5341-.375D6B.0Z4  | SIRA  | 10268525    | 6            | D          | 0.375 | 0.375 | 1.500 | 6.000 | 0.188 | 4     | Cylindrical | ■              |
| C5341-.500D6B.0Z4  | SIRA  | 10268537    | 6            | D          | 0.500 | 0.500 | 3.000 | 6.000 | 0.250 | 4     | Cylindrical | ■              |
| C5341-.125D7B.0Z4  | SIRA  | 10268494    | 7            | D          | 0.125 | 0.125 | 1.000 | 3.000 | 0.063 | 4     | Cylindrical | ■              |
| C5341-.250D7B.0Z4  | SIRA  | 10268513    | 7            | D          | 0.250 | 0.250 | 1.500 | 6.000 | 0.125 | 4     | Cylindrical | ■              |
| C5341-.375D7B.0Z4  | SIRA  | 10268526    | 7            | D          | 0.375 | 0.375 | 2.000 | 4.000 | 0.188 | 4     | Cylindrical | ■              |
| C5341-.063F8B.0Z4  | SIRA  | 10268482    | 8            | F          | 0.063 | 0.125 | 1.000 | 3.000 | 0.031 | 4     | Cylindrical | ■              |
| C5341-.094F8B.0Z4  | SIRA  | 10268488    | 8            | F          | 0.094 | 0.125 | 1.000 | 3.000 | 0.047 | 4     | Cylindrical | ■              |
| C5341-.125D8B.0Z4  | SIRA  | 10268495    | 8            | D          | 0.125 | 0.125 | 1.000 | 4.000 | 0.063 | 4     | Cylindrical | ■              |
| C5341-.375D8B.0Z4  | SIRA  | 10268527    | 8            | D          | 0.375 | 0.375 | 3.000 | 6.000 | 0.188 | 4     | Cylindrical | ■              |

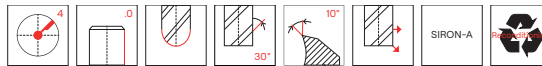
■ Stocked standard.

## C5341

General purpose – Universal – Ball nose – 4 Flutes – Cylindrical – Inch



- Tolerances:
- DMM= $-.0001"/-.0004"$
- DC  $\leq \varnothing 7/64" = \pm .0005"$
- DC  $> \varnothing 7/64" = +.000"/-.002"$
- RE=  $\pm .0005"$
- Double end
- Regrind possible if DC is  $\geq \varnothing .375$



| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |       |             |              |            | inch  | inch  | inch  | inch  | inch  |       |             |                |
| C5341-.500D1B.0Z4D | SIRA  | 10268565    | 1            | D          | 0.500 | 0.500 | 0.625 | 3.000 | 0.250 | 4     | Cylindrical | ■              |
| C5341-.031F2B.0Z4D | SIRA  | 10268553    | 2            | F          | 0.031 | 0.125 | 0.063 | 1.500 | 0.016 | 4     | Cylindrical | ■              |
| C5341-.047F2B.0Z4D | SIRA  | 10268554    | 2            | F          | 0.047 | 0.125 | 0.094 | 1.500 | 0.023 | 4     | Cylindrical | ■              |
| C5341-.063F2B.0Z4D | SIRA  | 10268555    | 2            | F          | 0.063 | 0.125 | 0.125 | 1.500 | 0.031 | 4     | Cylindrical | ■              |
| C5341-.078F2B.0Z4D | SIRA  | 10268556    | 2            | F          | 0.078 | 0.125 | 0.125 | 1.500 | 0.039 | 4     | Cylindrical | ■              |
| C5341-.094F2B.0Z4D | SIRA  | 10268557    | 2            | F          | 0.094 | 0.125 | 0.188 | 1.500 | 0.047 | 4     | Cylindrical | ■              |
| C5341-.125D2B.0Z4D | SIRA  | 10268558    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 0.063 | 4     | Cylindrical | ■              |
| C5341-.156F2B.0Z4D | SIRA  | 10268559    | 2            | F          | 0.156 | 0.188 | 0.313 | 2.000 | 0.078 | 4     | Cylindrical | ■              |
| C5341-.172F2B.0Z4D | SIRA  | 10268560    | 2            | F          | 0.172 | 0.188 | 0.313 | 2.000 | 0.086 | 4     | Cylindrical | ■              |
| C5341-.188D2B.0Z4D | SIRA  | 10268561    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 0.094 | 4     | Cylindrical | ■              |
| C5341-.250D2B.0Z4D | SIRA  | 10268562    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.500 | 0.125 | 4     | Cylindrical | ■              |
| C5341-.313D2B.0Z4D | SIRA  | 10268563    | 2            | D          | 0.313 | 0.313 | 0.500 | 2.500 | 0.156 | 4     | Cylindrical | ■              |
| C5341-.375D2B.0Z4D | SIRA  | 10268564    | 2            | D          | 0.375 | 0.375 | 0.563 | 2.500 | 0.188 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster



## Cutting data – C5341 Side milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |         |         |         |         |         |         |         |        |        |                 | v <sub>c</sub> |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|-----------------|----------------|
|     |                                                                                   |                    |                    | 1              | 1,5     | 2       | 3       | 3,5     | 4       | 5       | 6       | 8       | 9       | 10      | 12      | 16     | 20     |                 |                |
| P1  | E                                                                                 | 0,10               | 1,0                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,024   | 0,032   | 0,036   | 0,04    | 0,048   | 0,06   | 0,07   | 150 (135 — 165) |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.00095 | 0.0013  | 0.0014  | 0.0016  | 0.0019  | 0.0024 | 0.0028 | 490 (440— 540)  |                |
| P2  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038   | 0,048  | 0,055  | 58 (45— 70)     |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015  | 0.0019 | 0.0022 | 190 (147 — 230) |                |
| P3  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038   | 0,048  | 0,055  | 85 (70 — 95)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015  | 0.0019 | 0.0022 | 279 (246 — 312) |                |
| P4  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038   | 0,048  | 0,055  | 100 (90 — 110)  |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015  | 0.0019 | 0.0022 | 330 (295 — 360) |                |
| P5  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038   | 0,048  | 0,055  | 68 (50 — 75)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015  | 0.0019 | 0.0022 | 223 (165 — 245) |                |
| P6  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038   | 0,048  | 0,055  | 87 (77 — 100)   |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015  | 0.0019 | 0.0022 | 285 (250 — 330) |                |
| P7  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038   | 0,048  | 0,055  | 65 (55 — 75)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015  | 0.0019 | 0.0022 | 213 (180 — 245) |                |
| P8  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038   | 0,048  | 0,055  | 65 (50 — 75)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015  | 0.0019 | 0.0022 | 213 (165 — 245) |                |
| P11 | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038   | 0,048  | 0,055  | 85 (70 — 95)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015  | 0.0019 | 0.0022 | 280 (230 — 310) |                |
| P12 | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,0038  | 0,005   | 0,0075  | 0,009   | 0,01    | 0,013   | 0,015   | 0,02    | 0,022   | 0,025   | 0,03    | 0,038  | 0,044  | 55 (45— 65)     |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00010        | 0.00015 | 0.00020 | 0.00030 | 0.00036 | 0.00040 | 0.00050 | 0.00060 | 0.00080 | 0.00085 | 0.0010  | 0.0012  | 0.0015 | 0.0017 | 180 (147 — 213) |                |
| M1  | E                                                                                 | 0,10               | 1,0                | 0,0038         | 0,0055  | 0,0075  | 0,011   | 0,013   | 0,015   | 0,019   | 0,022   | 0,03    | 0,034   | 0,038   | 0,044   | 0,055  | 0,065  | 93 (83 — 100)   |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00015        | 0.00022 | 0.00030 | 0.00044 | 0.00050 | 0.00060 | 0.00075 | 0.00085 | 0.0012  | 0.0013  | 0.0015  | 0.0017  | 0.0022 | 0.0026 | 305 (270 — 360) |                |
| M2  | E                                                                                 | 0,10               | 1,0                | 0,0038         | 0,0055  | 0,0075  | 0,011   | 0,013   | 0,015   | 0,019   | 0,022   | 0,03    | 0,034   | 0,038   | 0,044   | 0,055  | 0,065  | 60 (50 — 70)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00015        | 0.00022 | 0.00030 | 0.00044 | 0.00050 | 0.00060 | 0.00075 | 0.00085 | 0.0012  | 0.0013  | 0.0015  | 0.0017  | 0.0022 | 0.0026 | 200 (165 — 230) |                |
| M3  | E                                                                                 | 0,10               | 1,0                | 0,0038         | 0,0055  | 0,0075  | 0,011   | 0,013   | 0,015   | 0,019   | 0,022   | 0,03    | 0,034   | 0,038   | 0,044   | 0,055  | 0,065  | 55 (45— 65)     |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00015        | 0.00022 | 0.00030 | 0.00044 | 0.00050 | 0.00060 | 0.00075 | 0.00085 | 0.0012  | 0.0013  | 0.0015  | 0.0017  | 0.0022 | 0.0026 | 180 (147 — 213) |                |
| M4  | E                                                                                 | 0,10               | 1,0                | 0,0038         | 0,0055  | 0,0075  | 0,011   | 0,013   | 0,015   | 0,019   | 0,022   | 0,03    | 0,034   | 0,038   | 0,044   | 0,055  | 0,065  | 45 (35 — 55)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00015        | 0.00022 | 0.00030 | 0.00044 | 0.00050 | 0.00060 | 0.00075 | 0.00085 | 0.0012  | 0.0013  | 0.0015  | 0.0017  | 0.0022 | 0.0026 | 147 (115 — 180) |                |
| M5  | E                                                                                 | 0,10               | 1,0                | 0,0034         | 0,005   | 0,0065  | 0,01    | 0,012   | 0,013   | 0,017   | 0,02    | 0,026   | 0,03    | 0,034   | 0,04    | 0,05   | 0,055  | 35 (20 — 45)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00020 | 0.00026 | 0.00040 | 0.00048 | 0.00050 | 0.00065 | 0.00080 | 0.0010  | 0.0012  | 0.0013  | 0.0016  | 0.0020 | 0.0022 | 114 (65 — 147)  |                |
| K1  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038   | 0,048  | 0,055  | 80 (70 — 90)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015  | 0.0019 | 0.0022 | 260 (230 — 290) |                |
| K2  | E                                                                                 | 0,10               | 1,0                | 0,0044         | 0,0065  | 0,0085  | 0,013   | 0,015   | 0,017   | 0,022   | 0,026   | 0,034   | 0,04    | 0,044   | 0,05    | 0,065  | 0,075  | 87 (75 — 100)   |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00017        | 0.00026 | 0.00034 | 0.00050 | 0.00060 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0016  | 0.0017  | 0.0020  | 0.0026 | 0.0030 | 285 (245 — 330) |                |
| K3  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038   | 0,048  | 0,055  | 65 (55 — 75)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015  | 0.0019 | 0.0022 | 213 (180 — 245) |                |
| K4  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038   | 0,048  | 0,055  | 50 (35 — 65)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015  | 0.0019 | 0.0022 | 165 (115 — 213) |                |
| K5  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038   | 0,048  | 0,055  | 45 (30 — 55)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015  | 0.0019 | 0.0022 | 147 (100 — 180) |                |
| K6  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038   | 0,048  | 0,055  | 77 (65 — 85)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015  | 0.0019 | 0.0022 | 250 (210 — 280) |                |
| K7  | E                                                                                 | 0,10               | 1,0                | 0,0032         | 0,0048  | 0,0065  | 0,0095  | 0,011   | 0,013   | 0,016   | 0,019   | 0,026   | 0,028   | 0,032   | 0,038   | 0,048  | 0,055  | 77 (60 — 90)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00013        | 0.00019 | 0.00026 | 0.00038 | 0.00044 | 0.00050 | 0.00065 | 0.00075 | 0.0010  | 0.0011  | 0.0013  | 0.0015  | 0.0019 | 0.0022 | 250 (200 — 290) |                |
| S1  | E                                                                                 | 0,10               | 1,0                | 0,004          | 0,006   | 0,008   | 0,012   | 0,014   | 0,016   | 0,02    | 0,024   | 0,032   | 0,036   | 0,04    | 0,048   | 0,06   | 0,07   | 50 (35 — 60)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00016        | 0.00024 | 0.00032 | 0.00048 | 0.00055 | 0.00065 | 0.00080 | 0.00095 | 0.0013  | 0.0014  | 0.0016  | 0.0019  | 0.0024 | 0.0028 | 165 (115 — 200) |                |
| S2  | E                                                                                 | 0,10               | 1,0                | 0,0028         | 0,004   | 0,0055  | 0,008   | 0,0095  | 0,011   | 0,014   | 0,016   | 0,022   | 0,025   | 0,028   | 0,032   | 0,04   | 0,046  | 25 (15 — 35)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00011        | 0.00016 | 0.00022 | 0.00032 | 0.00038 | 0.00044 | 0.00055 | 0.00065 | 0.00085 | 0.0010  | 0.0011  | 0.0013  | 0.0016 | 0.0018 | 82 (50 — 115)   |                |
| S3  | E                                                                                 | 0,10               | 1,0                | 0,0017         | 0,0026  | 0,0034  | 0,005   | 0,006   | 0,007   | 0,0085  | 0,01    | 0,014   | 0,015   | 0,017   | 0,02    | 0,025  | 0,03   | 11 (7,5 — 16)   |                |
|     |                                                                                   | 0.10               | 1.0                | 0.000065       | 0.00010 | 0.00013 | 0.00020 | 0.00024 | 0.00028 | 0.00034 | 0.00040 | 0.00055 | 0.00060 | 0.00065 | 0.00080 | 0.0010 | 0.0012 | 35 (25 — 52)    |                |
| S11 | E                                                                                 | 0,10               | 1,0                | 0,0038         | 0,0055  | 0,0075  | 0,011   | 0,013   | 0,015   | 0,019   | 0,022   | 0,03    | 0,034   | 0,038   | 0,044   | 0,055  | 0,065  | 110 (95 — 120)  |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00015        | 0.00022 | 0.00030 | 0.00044 | 0.00050 | 0.00060 | 0.00075 | 0.00085 | 0.0012  | 0.0013  | 0.0015  | 0.0017  | 0.0022 | 0.0026 | 360 (311 — 390) |                |
| S12 | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,0038  | 0,005   | 0,0075  | 0,009   | 0,01    | 0,013   | 0,015   | 0,02    | 0,022   | 0,025   | 0,03    | 0,038  | 0,044  | 77 (60 — 90)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00010        | 0.00015 | 0.00020 | 0.00030 | 0.00036 | 0.00040 | 0.00050 | 0.00060 | 0.00080 | 0.00085 | 0.0010  | 0.0012  | 0.0015 | 0.0017 | 250 (190 — 290) |                |
| S13 | E                                                                                 | 0,10               | 1,0                | 0,0025         | 0,0038  | 0,005   | 0,0075  | 0,009   | 0,01    | 0,013   | 0,015   | 0,02    | 0,022   | 0,025   | 0,03    | 0,038  | 0,044  | 30 (20 — 40)    |                |
|     |                                                                                   | 0.10               | 1.0                | 0.00010        | 0.00015 | 0.00020 | 0.00030 | 0.00036 | 0.00040 | 0.00050 | 0.00060 | 0.00080 | 0.00085 | 0.0010  | 0.0012  | 0.0015 | 0.0017 | 100 (65 — 130)  |                |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values



### Cutting data – C5341 Side milling roughing – Inch

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>     |                   |                   |                  |                  |                   |                  |                  |                  |                  |                 |                 |                 | v <sub>c</sub>                     |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|--------------------|-------------------|-------------------|------------------|------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                    |                    | 1/32               | 1/16              | 1/8               | 1/6              | 1/5              | 2/9               | 1/4              | 1/3              | 3/8              | 1/2              | 5/8             | 3/4             | 1               |                                    |
| P1  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065 | 0,019<br>0.00075 | 0,022<br>0.00085  | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,05<br>0.0020   | 0,06<br>0.0024  | 0,065<br>0.0026 | 0,08<br>0.0032  | 150 (135 — 165)<br>490 (440 — 540) |
| P2  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050 | 0,015<br>0.00060 | 0,018<br>0.00070  | 0,02<br>0.00080  | 0,026<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,06<br>0.0024  | 58 (45 — 70)<br>190 (147 — 230)    |
| P3  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050 | 0,015<br>0.00060 | 0,018<br>0.00070  | 0,02<br>0.00080  | 0,026<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,06<br>0.0024  | 85 (70 — 95)<br>279 (246 — 312)    |
| P4  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050 | 0,015<br>0.00060 | 0,018<br>0.00070  | 0,02<br>0.00080  | 0,026<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,06<br>0.0024  | 100 (90 — 110)<br>330 (295 — 360)  |
| P5  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050 | 0,015<br>0.00060 | 0,018<br>0.00070  | 0,02<br>0.00080  | 0,026<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,06<br>0.0024  | 68 (50 — 75)<br>223 (165 — 245)    |
| P6  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050 | 0,015<br>0.00060 | 0,018<br>0.00070  | 0,02<br>0.00080  | 0,026<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,06<br>0.0024  | 87 (77 — 100)<br>285 (250 — 330)   |
| P7  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050 | 0,015<br>0.00060 | 0,018<br>0.00070  | 0,02<br>0.00080  | 0,026<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,06<br>0.0024  | 65 (55 — 75)<br>213 (180 — 245)    |
| P8  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050 | 0,015<br>0.00060 | 0,018<br>0.00070  | 0,02<br>0.00080  | 0,026<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,06<br>0.0024  | 65 (55 — 75)<br>213 (165 — 245)    |
| P11 | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050 | 0,015<br>0.00060 | 0,018<br>0.00070  | 0,02<br>0.00080  | 0,026<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,06<br>0.0024  | 85 (70 — 95)<br>280 (230 — 310)    |
| P12 | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,002<br>0.000080  | 0,004<br>0.00016  | 0,008<br>0.00032  | 0,01<br>0.00040  | 0,012<br>0.00048 | 0,014<br>0.00055  | 0,016<br>0.00065 | 0,02<br>0.00080  | 0,024<br>0.00095 | 0,03<br>0.0013   | 0,032<br>0.0015 | 0,038<br>0.0017 | 0,042<br>0.0020 | 55 (45 — 65)<br>180 (147 — 213)    |
| M1  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,003<br>0.00012   | 0,006<br>0.00024  | 0,012<br>0.00048  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080   | 0,024<br>0.00095 | 0,03<br>0.0012   | 0,036<br>0.0014  | 0,046<br>0.0018  | 0,055<br>0.0022 | 0,06<br>0.0024  | 0,07<br>0.0028  | 93 (83 — 100)<br>305 (270 — 360)   |
| M2  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,003<br>0.00012   | 0,006<br>0.00024  | 0,012<br>0.00048  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080   | 0,024<br>0.00095 | 0,03<br>0.0012   | 0,036<br>0.0014  | 0,046<br>0.0018  | 0,055<br>0.0022 | 0,06<br>0.0024  | 0,07<br>0.0028  | 60 (50 — 70)<br>200 (165 — 230)    |
| M3  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,003<br>0.00012   | 0,006<br>0.00024  | 0,012<br>0.00048  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080   | 0,024<br>0.00095 | 0,03<br>0.0012   | 0,036<br>0.0014  | 0,046<br>0.0018  | 0,055<br>0.0022 | 0,06<br>0.0024  | 0,07<br>0.0028  | 55 (45 — 65)<br>180 (147 — 213)    |
| M4  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,003<br>0.00012   | 0,006<br>0.00024  | 0,012<br>0.00048  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080   | 0,024<br>0.00095 | 0,03<br>0.0012   | 0,036<br>0.0014  | 0,046<br>0.0018  | 0,055<br>0.0022 | 0,06<br>0.0024  | 0,07<br>0.0028  | 45 (35 — 55)<br>147 (115 — 180)    |
| M5  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0026<br>0.00010  | 0,0055<br>0.00022 | 0,011<br>0.00044  | 0,013<br>0.00050 | 0,016<br>0.00065 | 0,019<br>0.00075  | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,042<br>0.0017  | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,065<br>0.0026 | 35 (20 — 45)<br>114 (65 — 147)     |
| K1  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050 | 0,015<br>0.00060 | 0,018<br>0.00070  | 0,02<br>0.00080  | 0,026<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,06<br>0.0024  | 80 (70 — 90)<br>260 (230 — 290)    |
| K2  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0034<br>0.00013  | 0,007<br>0.00028  | 0,014<br>0.00055  | 0,017<br>0.00065 | 0,02<br>0.00080  | 0,024<br>0.00095  | 0,028<br>0.0011  | 0,034<br>0.0013  | 0,042<br>0.0017  | 0,055<br>0.0022  | 0,065<br>0.0026 | 0,07<br>0.0028  | 0,085<br>0.0034 | 87 (75 — 100)<br>285 (245 — 330)   |
| K3  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050 | 0,015<br>0.00060 | 0,018<br>0.00070  | 0,02<br>0.00080  | 0,026<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,06<br>0.0024  | 65 (55 — 75)<br>213 (180 — 245)    |
| K4  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050 | 0,015<br>0.00060 | 0,018<br>0.00070  | 0,02<br>0.00080  | 0,026<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,06<br>0.0024  | 50 (35 — 65)<br>165 (115 — 213)    |
| K5  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050 | 0,015<br>0.00060 | 0,018<br>0.00070  | 0,02<br>0.00080  | 0,026<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,06<br>0.0024  | 45 (30 — 55)<br>147 (100 — 180)    |
| K6  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050 | 0,015<br>0.00060 | 0,018<br>0.00070  | 0,02<br>0.00080  | 0,026<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,06<br>0.0024  | 77 (65 — 85)<br>250 (210 — 280)    |
| K7  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0025<br>0.00010  | 0,005<br>0.00020  | 0,01<br>0.00040   | 0,013<br>0.00050 | 0,015<br>0.00060 | 0,018<br>0.00070  | 0,02<br>0.00080  | 0,026<br>0.0010  | 0,03<br>0.0012   | 0,04<br>0.0016   | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,06<br>0.0024  | 77 (60 — 90)<br>250 (200 — 290)    |
| S1  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0032<br>0.00013  | 0,0065<br>0.00026 | 0,013<br>0.00050  | 0,016<br>0.00065 | 0,019<br>0.00075 | 0,022<br>0.00085  | 0,026<br>0.0010  | 0,032<br>0.0013  | 0,038<br>0.0015  | 0,05<br>0.0020   | 0,06<br>0.0024  | 0,065<br>0.0026 | 0,08<br>0.0032  | 50 (35 — 60)<br>165 (115 — 200)    |
| S2  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0022<br>0.000085 | 0,0044<br>0.00017 | 0,009<br>0.00036  | 0,011<br>0.00044 | 0,013<br>0.00050 | 0,015<br>0.00060  | 0,018<br>0.00070 | 0,022<br>0.00085 | 0,026<br>0.0010  | 0,034<br>0.0013  | 0,04<br>0.0016  | 0,044<br>0.0017 | 0,055<br>0.0022 | 25 (15 — 35)<br>82 (50 — 115)      |
| S3  | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,0014<br>0.000055 | 0,0028<br>0.00011 | 0,0055<br>0.00022 | 0,007<br>0.00028 | 0,008<br>0.00032 | 0,0095<br>0.00038 | 0,011<br>0.00044 | 0,014<br>0.00055 | 0,016<br>0.00065 | 0,022<br>0.00085 | 0,025<br>0.0010 | 0,028<br>0.0011 | 0,034<br>0.0013 | 11 (7,5 — 16)<br>35 (25 — 52)      |
| S11 | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,003<br>0.00012   | 0,006<br>0.00024  | 0,012<br>0.00048  | 0,015<br>0.00060 | 0,018<br>0.00070 | 0,02<br>0.00080   | 0,024<br>0.00095 | 0,03<br>0.0012   | 0,036<br>0.0014  | 0,046<br>0.0018  | 0,055<br>0.0022 | 0,06<br>0.0024  | 0,07<br>0.0028  | 110 (95 — 120)<br>360 (311 — 390)  |
| S12 | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,002<br>0.000080  | 0,004<br>0.00016  | 0,008<br>0.00032  | 0,01<br>0.00040  | 0,012<br>0.00048 | 0,014<br>0.00055  | 0,016<br>0.00065 | 0,02<br>0.00080  | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,038<br>0.0015 | 0,042<br>0.0017 | 0,05<br>0.0020  | 77 (60 — 90)<br>250 (190 — 290)    |
| S13 | E                                                                                 | 0,10<br>0.10       | 1,0<br>1.0         | 0,002<br>0.000080  | 0,004<br>0.00016  | 0,008<br>0.00032  | 0,01<br>0.00040  | 0,012<br>0.00048 | 0,014<br>0.00055  | 0,016<br>0.00065 | 0,02<br>0.00080  | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,038<br>0.0015 | 0,042<br>0.0017 | 0,05<br>0.0020  | 30 (20 — 40)<br>100 (65 — 130)     |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

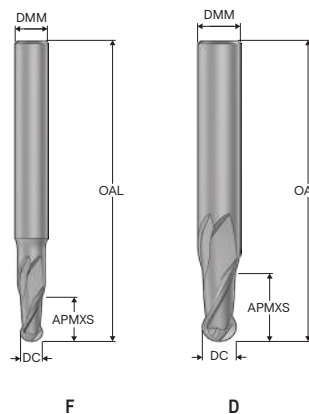
a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

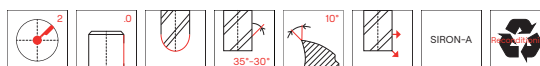
|                                 |
|---------------------------------|
| Universal                       |
| Steel and cast iron             |
| Stainless steel and S-materials |
| Non ferrous                     |
| Hard                            |
| Plastic and cf/p                |
| Graphite                        |
| X-Heads                         |
| Minimaster                      |

## JSB512

General purpose – Universal – Ball nose – 2 Flutes – Cylindrical



—Tolerances:  
—DMM=h5  
—DC=e8  
—RE= ±0,01 mm  
—Regrind possible if DC is ≥Ø10



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | RE  | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|------|-----|-------|-------------|----------------|
| JSB512020F2B.0Z2 | SIRA  | 10053561    | 2            | F          | 2,0  | 3,0  | 3,0   | 40,0 | 1,0 | 2     | Cylindrical | ■              |
| JSB512030D2B.0Z2 | SIRA  | 10053562    | 2            | D          | 3,0  | 3,0  | 5,0   | 40,0 | 1,5 | 2     | Cylindrical | ■              |
| JSB512040D2B.0Z2 | SIRA  | 10053563    | 2            | D          | 4,0  | 4,0  | 6,0   | 50,0 | 2,0 | 2     | Cylindrical | ■              |
| JSB512050F2B.0Z2 | SIRA  | 10053564    | 2            | F          | 5,0  | 6,0  | 8,0   | 57,0 | 2,5 | 2     | Cylindrical | ■              |
| JSB512060D2B.0Z2 | SIRA  | 10053565    | 2            | D          | 6,0  | 6,0  | 9,0   | 57,0 | 3,0 | 2     | Cylindrical | ■              |
| JSB512080D2B.0Z2 | SIRA  | 10053566    | 2            | D          | 8,0  | 8,0  | 12,0  | 63,0 | 4,0 | 2     | Cylindrical | ■              |
| JSB512100D2B.0Z2 | SIRA  | 10053567    | 2            | D          | 10,0 | 10,0 | 15,0  | 72,0 | 5,0 | 2     | Cylindrical | ■              |
| JSB512120D2B.0Z2 | SIRA  | 10053568    | 2            | D          | 12,0 | 12,0 | 18,0  | 83,0 | 6,0 | 2     | Cylindrical | ■              |

■ Stocked standard.

## Cutting data – JSB512 Copy milling roughing

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$            |                  |                  |                 |                 |                 |                 |                 | $v_c$                                 |                                 |
|-----|-----------------------------------------------------------------------------------|----------------|------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                |            | 2                | 3                | 4                | 5               | 6               | 8               | 10              | 12              |                                       |                                 |
| P1  | M/A/D/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (63 — 180)<br>490 (210 — 590)     | Universal                       |
| P2  | M/A/D/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (63 — 180)<br>490 (210 — 590)     |                                 |
| P3  | M/A/D/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (63 — 180)<br>490 (210 — 590)     | Steel and cast iron             |
| P4  | M/A/D/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (63 — 180)<br>490 (210 — 590)     |                                 |
| P5  | M/A/D/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (63 — 180)<br>490 (210 — 590)     | Stainless steel and S-materials |
| P6  | M/A/D/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (63 — 180)<br>490 (210 — 590)     |                                 |
| P7  | M/A/D/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (63 — 180)<br>490 (210 — 590)     | Non ferrous                     |
| P8  | M/A/D/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (63 — 180)<br>490 (210 — 590)     |                                 |
| P11 | M/A/D/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 90 (63 — 120)<br>295 (210 — 390)      | Hard                            |
| P12 | M/A/D/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 90 (63 — 120)<br>295 (210 — 390)      |                                 |
| M1  | E/M/A                                                                             | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 90 (63 — 120)<br>295 (210 — 390)      | Plastic and cf/p                |
| M2  | E/M/A                                                                             | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 90 (63 — 120)<br>295 (210 — 390)      |                                 |
| M3  | E/M/A                                                                             | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 90 (63 — 120)<br>295 (210 — 390)      | Graphite                        |
| M4  | E/M/A                                                                             | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 90 (63 — 120)<br>295 (210 — 390)      |                                 |
| M5  | E/M/A                                                                             | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 90 (63 — 120)<br>295 (210 — 390)      | X-Heads                         |
| K1  | A/D/M/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (63 — 180)<br>490 (210 — 590)     |                                 |
| K2  | A/D/M/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (63 — 180)<br>490 (210 — 590)     | Minimaster                      |
| K3  | A/D/M/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (63 — 180)<br>490 (210 — 590)     |                                 |
| K4  | A/D/M/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (63 — 180)<br>490 (210 — 590)     |                                 |
| K5  | A/D/M/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (61 — 180)<br>475 (210 — 590)     |                                 |
| K6  | A/D/M/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (63 — 180)<br>490 (210 — 590)     |                                 |
| K7  | A/D/M/E                                                                           | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (63 — 180)<br>490 (210 — 590)     |                                 |
| N1  | E/M/A                                                                             | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 500 (380 — 620)<br>1650 (1300 — 2000) |                                 |
| N11 | E/M/A                                                                             | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 375 (260 — 500)<br>1225 (860 — 1600)  |                                 |
| S11 | E                                                                                 | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 90 (66 — 130)<br>295 (220 — 420)      |                                 |
| S12 | E                                                                                 | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 90 (63 — 120)<br>295 (210 — 390)      |                                 |
| S13 | E                                                                                 | 0.150<br>0,150 | 1.2<br>1,2 | 0.010<br>0,00040 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 90 (63 — 120)<br>295 (210 — 390)      |                                 |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

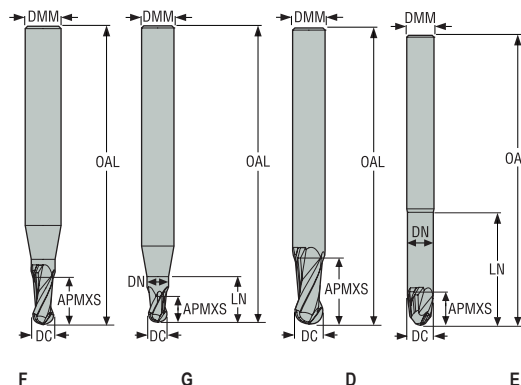
 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

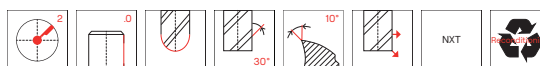
All cutting data are target values

## JS532

High performance – Universal – Ball nose – 2 Flutes – Cylindrical



- Tolerances:  
—DMM=h5  
—DC=e8  
—RE= ±0,01 mm  
—Regrind possible if DC is ≥Ø6

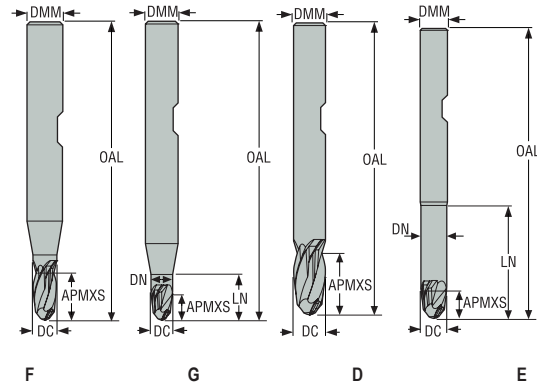


| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN    | DN   | RE   | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|-------|------|------|-------|-------------|----------------|
| JS532010F1B.0Z2-NXT | 02928193    | 1            | F          | 1,0  | 3,0  | 2,0   | 38,0  | —     | —    | 0,5  | 2     | Cylindrical | ■              |
| JS532015F1B.0Z2-NXT | 02928194    | 1            | F          | 1,5  | 3,0  | 3,0   | 38,0  | —     | —    | 0,75 | 2     | Cylindrical | ■              |
| JS532020F1B.0Z2-NXT | 02928195    | 1            | F          | 2,0  | 3,0  | 4,0   | 38,0  | —     | —    | 1,0  | 2     | Cylindrical | ■              |
| JS532025F1B.0Z2-NXT | 02928197    | 1            | F          | 2,5  | 3,0  | 5,0   | 38,0  | —     | —    | 1,25 | 2     | Cylindrical | ■              |
| JS532030D1B.0Z2-NXT | 02928199    | 1            | D          | 3,0  | 3,0  | 6,0   | 38,0  | —     | —    | 1,5  | 2     | Cylindrical | ■              |
| JS532035F1B.0Z2-NXT | 02928202    | 1            | F          | 3,5  | 6,0  | 7,0   | 57,0  | —     | —    | 1,75 | 2     | Cylindrical | ■              |
| JS532040F1B.0Z2-NXT | 02928203    | 1            | F          | 4,0  | 6,0  | 8,0   | 57,0  | —     | —    | 2,0  | 2     | Cylindrical | ■              |
| JS532045F1B.0Z2-NXT | 02928206    | 1            | F          | 4,5  | 6,0  | 9,0   | 57,0  | —     | —    | 2,25 | 2     | Cylindrical | ■              |
| JS532050F1B.0Z2-NXT | 02928207    | 1            | F          | 5,0  | 6,0  | 10,0  | 57,0  | —     | —    | 2,5  | 2     | Cylindrical | ■              |
| JS532060D1B.0Z2-NXT | 02928210    | 1            | D          | 6,0  | 6,0  | 12,0  | 57,0  | —     | —    | 3,0  | 2     | Cylindrical | ■              |
| JS532080D1B.0Z2-NXT | 02928213    | 1            | D          | 8,0  | 8,0  | 16,0  | 63,0  | —     | —    | 4,0  | 2     | Cylindrical | ■              |
| JS532100D1B.0Z2-NXT | 02928216    | 1            | D          | 10,0 | 10,0 | 20,0  | 72,0  | —     | —    | 5,0  | 2     | Cylindrical | ■              |
| JS532120D1B.0Z2-NXT | 02928219    | 1            | D          | 12,0 | 12,0 | 24,0  | 83,0  | —     | —    | 6,0  | 2     | Cylindrical | ■              |
| JS532160D1B.0Z2-NXT | 02928222    | 1            | D          | 16,0 | 16,0 | 32,0  | 92,0  | —     | —    | 8,0  | 2     | Cylindrical | ■              |
| JS532200D1B.0Z2-NXT | 02928225    | 1            | D          | 20,0 | 20,0 | 40,0  | 104,0 | —     | —    | 10,0 | 2     | Cylindrical | ■              |
| JS532020G2B.0Z2-NXT | 02928196    | 2            | G          | 2,0  | 3,0  | 2,0   | 38,0  | 8,0   | 1,9  | 1,0  | 2     | Cylindrical | ■              |
| JS532030E2B.0Z2-NXT | 02928200    | 2            | E          | 3,0  | 3,0  | 3,0   | 38,0  | 10,0  | 2,85 | 1,5  | 2     | Cylindrical | ■              |
| JS532040G2B.0Z2-NXT | 02928204    | 2            | G          | 4,0  | 6,0  | 4,0   | 57,0  | 15,0  | 3,8  | 2,0  | 2     | Cylindrical | ■              |
| JS532050G2B.0Z2-NXT | 02928208    | 2            | G          | 5,0  | 6,0  | 5,0   | 57,0  | 20,0  | 4,8  | 2,5  | 2     | Cylindrical | ■              |
| JS532060E2B.0Z2-NXT | 02928211    | 2            | E          | 6,0  | 6,0  | 6,0   | 63,0  | 25,0  | 5,7  | 3,0  | 2     | Cylindrical | ■              |
| JS532080E2B.0Z2-NXT | 02928214    | 2            | E          | 8,0  | 8,0  | 8,0   | 80,0  | 35,0  | 7,6  | 4,0  | 2     | Cylindrical | ■              |
| JS532100E2B.0Z2-NXT | 02928217    | 2            | E          | 10,0 | 10,0 | 10,0  | 82,0  | 40,0  | 9,5  | 5,0  | 2     | Cylindrical | ■              |
| JS532120E2B.0Z2-NXT | 02928220    | 2            | E          | 12,0 | 12,0 | 12,0  | 100,0 | 50,0  | 11,4 | 6,0  | 2     | Cylindrical | ■              |
| JS532160E2B.0Z2-NXT | 02928223    | 2            | E          | 16,0 | 16,0 | 16,0  | 125,0 | 72,0  | 15,2 | 8,0  | 2     | Cylindrical | ■              |
| JS532030E3B.0Z2-NXT | 02928201    | 3            | E          | 3,0  | 3,0  | 3,0   | 52,0  | 20,0  | 2,85 | 1,5  | 2     | Cylindrical | ■              |
| JS532040G3B.0Z2-NXT | 02928205    | 3            | G          | 4,0  | 6,0  | 4,0   | 63,0  | 24,0  | 3,8  | 2,0  | 2     | Cylindrical | ■              |
| JS532050G3B.0Z2-NXT | 02928209    | 3            | G          | 5,0  | 6,0  | 5,0   | 75,0  | 35,0  | 4,8  | 2,5  | 2     | Cylindrical | ■              |
| JS532060E3B.0Z2-NXT | 02928212    | 3            | E          | 6,0  | 6,0  | 6,0   | 80,0  | 42,0  | 5,7  | 3,0  | 2     | Cylindrical | ■              |
| JS532080E3B.0Z2-NXT | 02928215    | 3            | E          | 8,0  | 8,0  | 8,0   | 100,0 | 60,0  | 7,6  | 4,0  | 2     | Cylindrical | ■              |
| JS532100E3B.0Z2-NXT | 02928218    | 3            | E          | 10,0 | 10,0 | 10,0  | 125,0 | 80,0  | 9,5  | 5,0  | 2     | Cylindrical | ■              |
| JS532120E3B.0Z2-NXT | 02928221    | 3            | E          | 12,0 | 12,0 | 12,0  | 125,0 | 75,0  | 11,4 | 6,0  | 2     | Cylindrical | ■              |
| JS532160E3B.0Z2-NXT | 02928224    | 3            | E          | 16,0 | 16,0 | 16,0  | 150,0 | 100,0 | 15,2 | 8,0  | 2     | Cylindrical | ■              |

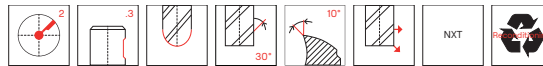
■ Stocked standard.

## JS532

High performance – Universal – Ball nose – 2 Flutes – Weldon



- Tolerances:
- DMM=h5
- DC=e8
- RE= ±0,01 mm
- Regrind possible if DC is ≥Ø6



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN    | DN   | RE   | PCEDC | Shank  | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|-------|------|------|-------|--------|----------------|
|                     |             |              |            | mm   | mm   | mm    | mm    | mm    | mm   | mm   |       |        |                |
| JS532035F1B.3Z2-NXT | 02928254    | 1            | F          | 3,5  | 6,0  | 7,0   | 57,0  | —     | —    | 1,75 | 2     | Weldon | ■              |
| JS532040F1B.3Z2-NXT | 02928255    | 1            | F          | 4,0  | 6,0  | 8,0   | 57,0  | —     | —    | 2,0  | 2     | Weldon | □              |
| JS532045F1B.3Z2-NXT | 02928258    | 1            | F          | 4,5  | 6,0  | 9,0   | 57,0  | —     | —    | 2,25 | 2     | Weldon | □              |
| JS532050F1B.3Z2-NXT | 02928259    | 1            | F          | 5,0  | 6,0  | 10,0  | 57,0  | —     | —    | 2,5  | 2     | Weldon | □              |
| JS532060D1B.3Z2-NXT | 02928263    | 1            | D          | 6,0  | 6,0  | 12,0  | 57,0  | —     | —    | 3,0  | 2     | Weldon | □              |
| JS532080D1B.3Z2-NXT | 02928266    | 1            | D          | 8,0  | 8,0  | 16,0  | 63,0  | —     | —    | 4,0  | 2     | Weldon | □              |
| JS532100D1B.3Z2-NXT | 02928269    | 1            | D          | 10,0 | 10,0 | 20,0  | 72,0  | —     | —    | 5,0  | 2     | Weldon | □              |
| JS532120D1B.3Z2-NXT | 02928272    | 1            | D          | 12,0 | 12,0 | 24,0  | 83,0  | —     | —    | 6,0  | 2     | Weldon | □              |
| JS532160D1B.3Z2-NXT | 02928275    | 1            | D          | 16,0 | 16,0 | 32,0  | 92,0  | —     | —    | 8,0  | 2     | Weldon | □              |
| JS532200D1B.3Z2-NXT | 02928278    | 1            | D          | 20,0 | 20,0 | 40,0  | 104,0 | —     | —    | 10,0 | 2     | Weldon | □              |
| JS532040G2B.3Z2-NXT | 02928256    | 2            | G          | 4,0  | 6,0  | 4,0   | 57,0  | 18,0  | 3,8  | 2,0  | 2     | Weldon | □              |
| JS532050G2B.3Z2-NXT | 02928260    | 2            | G          | 5,0  | 6,0  | 5,0   | 57,0  | 18,0  | 4,8  | 2,5  | 2     | Weldon | □              |
| JS532060E2B.3Z2-NXT | 02928264    | 2            | E          | 6,0  | 6,0  | 6,0   | 63,0  | 25,0  | 5,7  | 3,0  | 2     | Weldon | □              |
| JS532080E2B.3Z2-NXT | 02928267    | 2            | E          | 8,0  | 8,0  | 8,0   | 80,0  | 35,0  | 7,6  | 4,0  | 2     | Weldon | □              |
| JS532100E2B.3Z2-NXT | 02928270    | 2            | E          | 10,0 | 10,0 | 10,0  | 82,0  | 40,0  | 9,5  | 5,0  | 2     | Weldon | □              |
| JS532120E2B.3Z2-NXT | 02928273    | 2            | E          | 12,0 | 12,0 | 12,0  | 100,0 | 50,0  | 11,4 | 6,0  | 2     | Weldon | □              |
| JS532160E2B.3Z2-NXT | 02928276    | 2            | E          | 16,0 | 16,0 | 16,0  | 125,0 | 70,0  | 15,2 | 8,0  | 2     | Weldon | □              |
| JS532040G3B.3Z2-NXT | 02928257    | 3            | G          | 4,0  | 6,0  | 4,0   | 63,0  | 24,0  | 3,8  | 2,0  | 2     | Weldon | □              |
| JS532050G3B.3Z2-NXT | 02928261    | 3            | G          | 5,0  | 6,0  | 5,0   | 75,0  | 35,0  | 4,8  | 2,5  | 2     | Weldon | □              |
| JS532060E3B.3Z2-NXT | 02928265    | 3            | E          | 6,0  | 6,0  | 6,0   | 80,0  | 42,0  | 5,7  | 3,0  | 2     | Weldon | □              |
| JS532080E3B.3Z2-NXT | 02928268    | 3            | E          | 8,0  | 8,0  | 8,0   | 100,0 | 60,0  | 7,6  | 4,0  | 2     | Weldon | □              |
| JS532100E3B.3Z2-NXT | 02928271    | 3            | E          | 10,0 | 10,0 | 10,0  | 125,0 | 80,0  | 9,5  | 5,0  | 2     | Weldon | □              |
| JS532120E3B.3Z2-NXT | 02928274    | 3            | E          | 12,0 | 12,0 | 12,0  | 125,0 | 75,0  | 11,4 | 6,0  | 2     | Weldon | □              |
| JS532160E3B.3Z2-NXT | 02928277    | 3            | E          | 16,0 | 16,0 | 16,0  | 150,0 | 100,0 | 15,2 | 8,0  | 2     | Weldon | □              |

□ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JS532 Copy milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                  |                  |                  |                 |                 |                 |                 |                 |                 |                                    | v <sub>c</sub> |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-------------------|-------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|----------------|
|     |                                                                                   |                    |                    | 1                 | 2                 | 3                | 4                | 5                | 6               | 8               | 10              | 12              | 16              | 20              |                                    |                |
| P1  | M/A/D/E                                                                           | 0.200<br>0,200     | 0.20<br>0,20       | 0.0060<br>0,00024 | 0.012<br>0,00048  | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.11<br>0,0044  | 205 (140 — 180)<br>670 (460 — 590) |                |
| P2  | M/A/D/E                                                                           | 0.200<br>0,200     | 0.20<br>0,20       | 0.0060<br>0,00024 | 0.012<br>0,00048  | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.11<br>0,0044  | 200 (130 — 180)<br>660 (430 — 590) |                |
| P3  | M/A/D/E                                                                           | 0.200<br>0,200     | 0.20<br>0,20       | 0.0060<br>0,00024 | 0.012<br>0,00048  | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.11<br>0,0044  | 170 (110 — 150)<br>560 (370 — 490) |                |
| P4  | M/A/D/E                                                                           | 0.200<br>0,200     | 0.20<br>0,20       | 0.0060<br>0,00024 | 0.012<br>0,00048  | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.10<br>0,0040  | 150 (97 — 130)<br>490 (320 — 420)  |                |
| P5  | M/A/D/E                                                                           | 0.200<br>0,200     | 0.20<br>0,20       | 0.0060<br>0,00024 | 0.012<br>0,00048  | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 145 (93 — 130)<br>475 (310 — 420)  |                |
| P6  | M/A/D/E                                                                           | 0.200<br>0,200     | 0.20<br>0,20       | 0.0060<br>0,00024 | 0.012<br>0,00048  | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 160 (110 — 140)<br>520 (370 — 450) |                |
| P7  | M/A/D/E                                                                           | 0.200<br>0,200     | 0.20<br>0,20       | 0.0060<br>0,00024 | 0.012<br>0,00048  | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 150 (98 — 140)<br>490 (330 — 450)  |                |
| P8  | M/A/D/E                                                                           | 0.200<br>0,200     | 0.20<br>0,20       | 0.0060<br>0,00024 | 0.012<br>0,00048  | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.11<br>0,0044  | 145 (93 — 130)<br>475 (310 — 420)  |                |
| P11 | M/A/D/E                                                                           | 0.100<br>0,100     | 0.10<br>0,10       | 0.0060<br>0,00024 | 0.012<br>0,00048  | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 170 (110 — 150)<br>560 (370 — 490) |                |
| P12 | M/A/D/E                                                                           | 0.100<br>0,100     | 0.10<br>0,10       | 0.0060<br>0,00024 | 0.012<br>0,00048  | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 100 (64 — 92)<br>330 (210 — 300)   |                |
| M1  | E                                                                                 | 0.100<br>0,100     | 0.10<br>0,10       | 0.0060<br>0,00024 | 0.012<br>0,00048  | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 195 (170 — 220)<br>640 (560 — 720) |                |
| M2  | E                                                                                 | 0.100<br>0,100     | 0.10<br>0,10       | 0.0060<br>0,00024 | 0.012<br>0,00048  | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 115 (93 — 130)<br>375 (310 — 420)  |                |
| M3  | E                                                                                 | 0.100<br>0,100     | 0.10<br>0,10       | 0.0050<br>0,00020 | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.095<br>0,0038 | 95 (73 — 110)<br>310 (240 — 360)   |                |
| M4  | E                                                                                 | 0.100<br>0,100     | 0.10<br>0,10       | 0.0048<br>0,00019 | 0.0095<br>0,00038 | 0.014<br>0,00055 | 0.019<br>0,00075 | 0.024<br>0,00095 | 0.028<br>0,0011 | 0.038<br>0,0015 | 0.048<br>0,0019 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.080<br>0,0032 | 70 (55 — 85)<br>230 (190 — 270)    |                |
| M5  | E                                                                                 | 0.100<br>0,100     | 0.10<br>0,10       | 0.0048<br>0,00019 | 0.0095<br>0,00038 | 0.014<br>0,00055 | 0.019<br>0,00075 | 0.024<br>0,00095 | 0.028<br>0,0011 | 0.038<br>0,0015 | 0.048<br>0,0019 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.080<br>0,0032 | 60 (46 — 71)<br>195 (160 — 230)    |                |
| K1  | E                                                                                 | 0.200<br>0,200     | 0.20<br>0,20       | 0.0060<br>0,00024 | 0.012<br>0,00048  | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 195 (180 — 210)<br>640 (600 — 680) |                |
| K2  | E                                                                                 | 0.200<br>0,200     | 0.20<br>0,20       | 0.0055<br>0,00022 | 0.011<br>0,00044  | 0.016<br>0,00065 | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.032<br>0,0013 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.095<br>0,0038 | 170 (160 — 180)<br>560 (530 — 590) |                |
| K3  | E                                                                                 | 0.200<br>0,200     | 0.20<br>0,20       | 0.0055<br>0,00022 | 0.011<br>0,00044  | 0.016<br>0,00065 | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.032<br>0,0013 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.095<br>0,0038 | 145 (130 — 150)<br>475 (430 — 490) |                |
| K4  | E                                                                                 | 0.200<br>0,200     | 0.20<br>0,20       | 0.0055<br>0,00022 | 0.011<br>0,00044  | 0.016<br>0,00065 | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.032<br>0,0013 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.095<br>0,0038 | 140 (130 — 150)<br>460 (430 — 490) |                |
| K5  | E                                                                                 | 0.100<br>0,100     | 0.10<br>0,10       | 0.0050<br>0,00020 | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.095<br>0,0038 | 165 (150 — 180)<br>540 (500 — 590) |                |
| K6  | E                                                                                 | 0.100<br>0,100     | 0.10<br>0,10       | 0.0050<br>0,00020 | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 245 (220 — 270)<br>800 (730 — 880) |                |
| K7  | E                                                                                 | 0.100<br>0,100     | 0.10<br>0,10       | 0.0050<br>0,00020 | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.095<br>0,0038 | 210 (190 — 230)<br>690 (630 — 750) |                |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

## Cutting data – JS532 Copy milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |         |        |        |        |        |        |      | v <sub>c</sub> |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|------|----------------|
|     |                                                                                   |                    |                    | 1              | 2       | 3       | 4       | 5       | 6       | 8      | 10     | 12     | 16     | 20     |      |                |
| N1  | E                                                                                 | 0.200              | 0.30               | 0.0080         | 0.016   | 0.024   | 0.032   | 0.038   | 0.046   | 0.060  | 0.080  | 0.095  | 0.11   | 0.13   | 610  | (520 — 710)    |
|     |                                                                                   | 0.200              | 0.30               | 0.00032        | 0.00065 | 0.00095 | 0.0013  | 0.0015  | 0.0018  | 0.0024 | 0.0032 | 0.0038 | 0.0044 | 0.0050 | 2000 | (1800 — 2300)  |
| N2  | E                                                                                 | 0.200              | 0.30               | 0.0080         | 0.016   | 0.024   | 0.032   | 0.038   | 0.046   | 0.060  | 0.080  | 0.095  | 0.11   | 0.13   | 395  | (330 — 450)    |
|     |                                                                                   | 0.200              | 0.30               | 0.00032        | 0.00065 | 0.00095 | 0.0013  | 0.0015  | 0.0018  | 0.0024 | 0.0032 | 0.0038 | 0.0044 | 0.0050 | 1300 | (1100 — 1400)  |
| N3  | E                                                                                 | 0.200              | 0.30               | 0.0080         | 0.016   | 0.024   | 0.032   | 0.038   | 0.046   | 0.060  | 0.080  | 0.095  | 0.11   | 0.13   | 260  | (220 — 300)    |
|     |                                                                                   | 0.200              | 0.30               | 0.00032        | 0.00065 | 0.00095 | 0.0013  | 0.0015  | 0.0018  | 0.0024 | 0.0032 | 0.0038 | 0.0044 | 0.0050 | 850  | (730 — 980)    |
| N11 | E                                                                                 | 0.200              | 0.30               | 0.0050         | 0.010   | 0.016   | 0.020   | 0.026   | 0.032   | 0.040  | 0.050  | 0.060  | 0.075  | 0.090  | 415  | (370 — 460)    |
|     |                                                                                   | 0.200              | 0.30               | 0.00020        | 0.00040 | 0.00065 | 0.00080 | 0.0010  | 0.0013  | 0.0016 | 0.0020 | 0.0024 | 0.0030 | 0.0036 | 1350 | (1300 — 1500)  |
| S1  | E                                                                                 | 0.150              | 0.10               | 0.0040         | 0.0080  | 0.012   | 0.016   | 0.020   | 0.024   | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 60   | (52 — 72)      |
|     |                                                                                   | 0.150              | 0.10               | 0.00016        | 0.00032 | 0.00048 | 0.00065 | 0.00080 | 0.00095 | 0.0013 | 0.0016 | 0.0019 | 0.0026 | 0.0032 | 195  | (180 — 230)    |
| S2  | E                                                                                 | 0.150              | 0.10               | 0.0040         | 0.0080  | 0.012   | 0.016   | 0.020   | 0.024   | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 50   | (42 — 58)      |
|     |                                                                                   | 0.150              | 0.10               | 0.00016        | 0.00032 | 0.00048 | 0.00065 | 0.00080 | 0.00095 | 0.0013 | 0.0016 | 0.0019 | 0.0026 | 0.0032 | 165  | (140 — 190)    |
| S3  | E                                                                                 | 0.100              | 0.10               | 0.0036         | 0.0070  | 0.010   | 0.014   | 0.018   | 0.020   | 0.028  | 0.036  | 0.042  | 0.055  | 0.060  | 32   | (22 — 42)      |
|     |                                                                                   | 0.100              | 0.10               | 0.00014        | 0.00028 | 0.00040 | 0.00055 | 0.00070 | 0.00080 | 0.0011 | 0.0014 | 0.0017 | 0.0022 | 0.0024 | 105  | (73 — 130)     |
| S11 | E                                                                                 | 0.200              | 0.20               | 0.0060         | 0.012   | 0.018   | 0.024   | 0.030   | 0.036   | 0.048  | 0.060  | 0.070  | 0.090  | 0.10   | 105  | (94 — 110)     |
|     |                                                                                   | 0.200              | 0.20               | 0.00024        | 0.00048 | 0.00070 | 0.00095 | 0.0012  | 0.0014  | 0.0019 | 0.0024 | 0.0028 | 0.0036 | 0.0040 | 345  | (310 — 360)    |
| S12 | E                                                                                 | 0.200              | 0.20               | 0.0060         | 0.012   | 0.018   | 0.024   | 0.030   | 0.036   | 0.048  | 0.060  | 0.070  | 0.090  | 0.10   | 80   | (72 — 92)      |
|     |                                                                                   | 0.200              | 0.20               | 0.00024        | 0.00048 | 0.00070 | 0.00095 | 0.0012  | 0.0014  | 0.0019 | 0.0024 | 0.0028 | 0.0036 | 0.0040 | 260  | (240 — 300)    |
| S13 | E                                                                                 | 0.200              | 0.20               | 0.0055         | 0.011   | 0.016   | 0.022   | 0.026   | 0.032   | 0.042  | 0.055  | 0.060  | 0.080  | 0.090  | 65   | (57 — 72)      |
|     |                                                                                   | 0.200              | 0.20               | 0.00022        | 0.00044 | 0.00065 | 0.00085 | 0.0010  | 0.0013  | 0.0017 | 0.0022 | 0.0024 | 0.0032 | 0.0036 | 215  | (190 — 230)    |
| TS1 | A                                                                                 | 0.200              | 0.40               | 0.0075         | 0.015   | 0.024   | 0.030   | 0.038   | 0.046   | 0.065  | 0.075  | 0.090  | 0.12   | 0.13   | 610  | (570 — 660)    |
|     |                                                                                   | 0.200              | 0.40               | 0.00030        | 0.00060 | 0.00095 | 0.0012  | 0.0015  | 0.0018  | 0.0026 | 0.0030 | 0.0036 | 0.0048 | 0.0050 | 2000 | (1900 — 2100)  |
| TP1 | A                                                                                 | 0.200              | 0.40               | 0.0075         | 0.015   | 0.024   | 0.030   | 0.038   | 0.046   | 0.065  | 0.075  | 0.090  | 0.12   | 0.13   | 610  | (570 — 660)    |
|     |                                                                                   | 0.200              | 0.40               | 0.00030        | 0.00060 | 0.00095 | 0.0012  | 0.0015  | 0.0018  | 0.0026 | 0.0030 | 0.0036 | 0.0048 | 0.0050 | 2000 | (1900 — 2100)  |
| GR1 | A                                                                                 | 0.200              | 0.40               | 0.0075         | 0.015   | 0.024   | 0.030   | 0.038   | 0.046   | 0.065  | 0.075  | 0.090  | 0.12   | 0.13   | 610  | (570 — 660)    |
|     |                                                                                   | 0.200              | 0.40               | 0.00030        | 0.00060 | 0.00095 | 0.0012  | 0.0015  | 0.0018  | 0.0026 | 0.0030 | 0.0036 | 0.0048 | 0.0050 | 2000 | (1900 — 2100)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cf/p

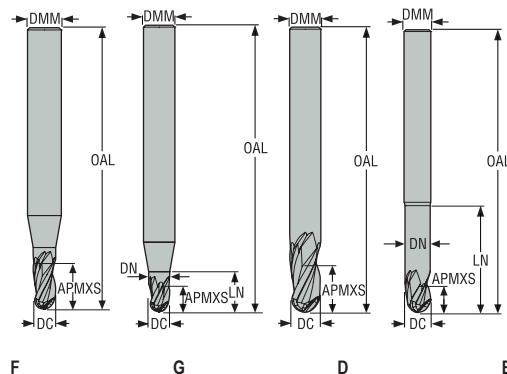
Graphite

X-Heads

Minimaster

## JS533

High performance – Universal – Ball nose – 3 Flutes – Cylindrical



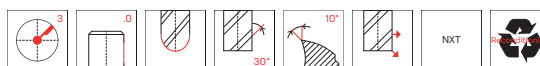
—Tolerances:

—DMM=h5

—DC=e8

—RE= ±0,01 mm

—Regrind possible if DC is ≥Ø6



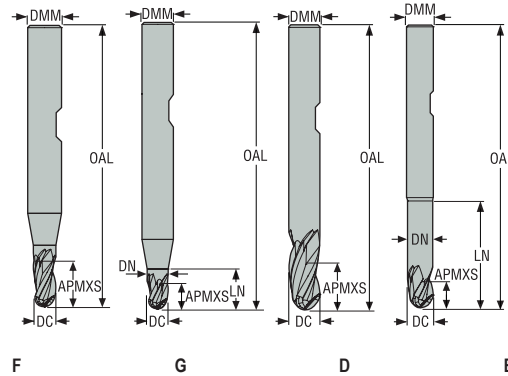
| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE   | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|------|------|-------|-------------|----------------|
| JS533010F1B.0Z3-NXT | 02928284    | 1            | F          | 1,0  | 3,0  | 2,0   | 38,0  | —    | —    | 0,5  | 3     | Cylindrical | ■              |
| JS533015F1B.0Z3-NXT | 02928286    | 1            | F          | 1,5  | 3,0  | 3,0   | 38,0  | —    | —    | 0,75 | 3     | Cylindrical | ■              |
| JS533020F1B.0Z3-NXT | 02928287    | 1            | F          | 2,0  | 3,0  | 4,0   | 38,0  | —    | —    | 1,0  | 3     | Cylindrical | ■              |
| JS533030D1B.0Z3-NXT | 02928289    | 1            | D          | 3,0  | 3,0  | 6,0   | 38,0  | —    | —    | 1,5  | 3     | Cylindrical | ■              |
| JS533040F1B.0Z3-NXT | 02928291    | 1            | F          | 4,0  | 6,0  | 8,0   | 57,0  | —    | —    | 2,0  | 3     | Cylindrical | ■              |
| JS533050F1B.0Z3-NXT | 02928293    | 1            | F          | 5,0  | 6,0  | 10,0  | 57,0  | —    | —    | 2,5  | 3     | Cylindrical | ■              |
| JS533060D1B.0Z3-NXT | 02928295    | 1            | D          | 6,0  | 6,0  | 12,0  | 57,0  | —    | —    | 3,0  | 3     | Cylindrical | ■              |
| JS533080D1B.0Z3-NXT | 02928297    | 1            | D          | 8,0  | 8,0  | 16,0  | 63,0  | —    | —    | 4,0  | 3     | Cylindrical | ■              |
| JS533100D1B.0Z3-NXT | 02928299    | 1            | D          | 10,0 | 10,0 | 20,0  | 72,0  | —    | —    | 5,0  | 3     | Cylindrical | ■              |
| JS533120D1B.0Z3-NXT | 02928301    | 1            | D          | 12,0 | 12,0 | 24,0  | 83,0  | —    | —    | 6,0  | 3     | Cylindrical | ■              |
| JS533160D1B.0Z3-NXT | 02928303    | 1            | D          | 16,0 | 16,0 | 32,0  | 110,0 | —    | —    | 8,0  | 3     | Cylindrical | ■              |
| JS533200D1B.0Z3-NXT | 02928305    | 1            | D          | 20,0 | 20,0 | 40,0  | 125,0 | —    | —    | 10,0 | 3     | Cylindrical | ■              |
| JS533020G2B.0Z3-NXT | 02928288    | 2            | G          | 2,0  | 3,0  | 2,0   | 38,0  | 7,0  | 1,9  | 1,0  | 3     | Cylindrical | ■              |
| JS533030E2B.0Z3-NXT | 02928290    | 2            | E          | 3,0  | 3,0  | 3,0   | 38,0  | 9,0  | 2,85 | 1,5  | 3     | Cylindrical | ■              |
| JS533040G2B.0Z3-NXT | 02928292    | 2            | G          | 4,0  | 6,0  | 4,0   | 57,0  | 15,0 | 3,8  | 2,0  | 3     | Cylindrical | ■              |
| JS533050G2B.0Z3-NXT | 02928294    | 2            | G          | 5,0  | 6,0  | 5,0   | 57,0  | 15,0 | 4,8  | 2,5  | 3     | Cylindrical | ■              |
| JS533060E2B.0Z3-NXT | 02928296    | 2            | E          | 6,0  | 6,0  | 6,0   | 63,0  | 25,0 | 5,7  | 3,0  | 3     | Cylindrical | ■              |
| JS533080E2B.0Z3-NXT | 02928298    | 2            | E          | 8,0  | 8,0  | 8,0   | 80,0  | 35,0 | 7,6  | 4,0  | 3     | Cylindrical | ■              |
| JS533100E2B.0Z3-NXT | 02928300    | 2            | E          | 10,0 | 10,0 | 10,0  | 89,0  | 40,0 | 9,5  | 5,0  | 3     | Cylindrical | ■              |
| JS533120E2B.0Z3-NXT | 02928302    | 2            | E          | 12,0 | 12,0 | 12,0  | 100,0 | 50,0 | 11,4 | 6,0  | 3     | Cylindrical | ■              |
| JS533160E2B.0Z3-NXT | 02928304    | 2            | E          | 16,0 | 16,0 | 16,0  | 125,0 | 70,0 | 15,2 | 8,0  | 3     | Cylindrical | ■              |

■ Stocked standard.

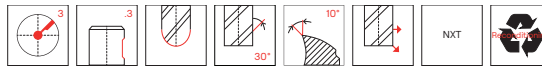


## JS533

High performance – Universal – Ball nose – 3 Flutes – Weldon



- Tolerances:
- DMM=h5
- DC=e8
- RE= ±0,01 mm
- Regrind possible if DC is ≥Ø6



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE   | PCEDC | Shank  | Stock standard           |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|------|------|-------|--------|--------------------------|
|                     |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm   |       |        |                          |
| JS533040F1B.3Z3-NXT | 02928323    | 1            | F          | 4,0  | 6,0  | 8,0   | 57,0  | —    | —    | 2,0  | 3     | Weldon | <input type="checkbox"/> |
| JS533050F1B.3Z3-NXT | 02928325    | 1            | F          | 5,0  | 6,0  | 10,0  | 57,0  | —    | —    | 2,5  | 3     | Weldon | <input type="checkbox"/> |
| JS533060D1B.3Z3-NXT | 02928326    | 1            | D          | 6,0  | 6,0  | 12,0  | 57,0  | —    | —    | 3,0  | 3     | Weldon | <input type="checkbox"/> |
| JS533080D1B.3Z3-NXT | 02928328    | 1            | D          | 8,0  | 8,0  | 16,0  | 63,0  | —    | —    | 4,0  | 3     | Weldon | <input type="checkbox"/> |
| JS533100D1B.3Z3-NXT | 02928330    | 1            | D          | 10,0 | 10,0 | 20,0  | 72,0  | —    | —    | 5,0  | 3     | Weldon | <input type="checkbox"/> |
| JS533120D1B.3Z3-NXT | 02928332    | 1            | D          | 12,0 | 12,0 | 24,0  | 83,0  | —    | —    | 6,0  | 3     | Weldon | <input type="checkbox"/> |
| JS533160D1B.3Z3-NXT | 02928334    | 1            | D          | 16,0 | 16,0 | 32,0  | 109,0 | —    | —    | 8,0  | 3     | Weldon | <input type="checkbox"/> |
| JS533200D1B.3Z3-NXT | 02928336    | 1            | D          | 20,0 | 20,0 | 40,0  | 125,0 | —    | —    | 10,0 | 3     | Weldon | <input type="checkbox"/> |
| JS533040G2B.3Z3-NXT | 02928324    | 2            | G          | 4,0  | 6,0  | 4,0   | 57,0  | 15,0 | 3,8  | 2,0  | 3     | Weldon | <input type="checkbox"/> |
| JS533050G2B.3Z3-NXT | 02928341    | 2            | G          | 5,0  | 6,0  | 5,0   | 57,0  | 15,0 | 4,8  | 2,5  | 3     | Weldon | <input type="checkbox"/> |
| JS533060E2B.3Z3-NXT | 02928327    | 2            | E          | 6,0  | 6,0  | 6,0   | 63,0  | 25,0 | 5,7  | 3,0  | 3     | Weldon | <input type="checkbox"/> |
| JS533080E2B.3Z3-NXT | 02928329    | 2            | E          | 8,0  | 8,0  | 8,0   | 80,0  | 35,0 | 7,6  | 4,0  | 3     | Weldon | <input type="checkbox"/> |
| JS533100E2B.3Z3-NXT | 02928331    | 2            | E          | 10,0 | 10,0 | 10,0  | 89,0  | 40,0 | 9,5  | 5,0  | 3     | Weldon | <input type="checkbox"/> |
| JS533120E2B.3Z3-NXT | 02928333    | 2            | E          | 12,0 | 12,0 | 12,0  | 100,0 | 50,0 | 11,4 | 6,0  | 3     | Weldon | <input type="checkbox"/> |
| JS533160E2B.3Z3-NXT | 02928335    | 2            | E          | 16,0 | 16,0 | 16,0  | 122,0 | 70,0 | 15,2 | 8,0  | 3     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JS533 Copy milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |         |         |        |        |        |        |                 | v <sub>c</sub> |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|-----------------|----------------|
|     |                                                                                   |                    |                    | 1              | 2       | 3       | 4       | 5       | 6       | 8       | 10     | 12     | 16     | 20     |                 |                |
| P1  | M/A/D/E                                                                           | 0.0300             | 0.80               | 0.0032         | 0.0065  | 0.0095  | 0.013   | 0.016   | 0.019   | 0.026   | 0.032  | 0.038  | 0.048  | 0.055  | 200 (180 — 220) |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00013        | 0,00026 | 0,00038 | 0,00050 | 0,00065 | 0,00075 | 0,0010  | 0,0013 | 0,0015 | 0,0019 | 0,0022 | 660 (600 — 720) |                |
| P2  | M/A/D/E                                                                           | 0.0300             | 0.80               | 0.0034         | 0.0065  | 0.010   | 0.013   | 0.017   | 0.020   | 0.026   | 0.034  | 0.038  | 0.048  | 0.055  | 195 (170 — 220) |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00013        | 0,00026 | 0,00040 | 0,00050 | 0,00065 | 0,00080 | 0,0010  | 0,0013 | 0,0015 | 0,0019 | 0,0022 | 640 (560 — 720) |                |
| P3  | M/A/D/E                                                                           | 0.0300             | 0.80               | 0.0032         | 0.0060  | 0.0095  | 0.013   | 0.016   | 0.019   | 0.025   | 0.032  | 0.036  | 0.046  | 0.055  | 165 (150 — 180) |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00013        | 0,00024 | 0,00038 | 0,00050 | 0,00065 | 0,00075 | 0,0010  | 0,0013 | 0,0014 | 0,0018 | 0,0022 | 540 (500 — 590) |                |
| P4  | M/A/D/E                                                                           | 0.0300             | 0.80               | 0.0030         | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.025   | 0.030  | 0.036  | 0.044  | 0.050  | 145 (130 — 160) |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00012        | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,0010  | 0,0012 | 0,0014 | 0,0017 | 0,0020 | 475 (430 — 520) |                |
| P5  | M/A/D/E                                                                           | 0.0300             | 0.80               | 0.0030         | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.044  | 0.050  | 140 (130 — 160) |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00012        | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 0,0017 | 0,0020 | 460 (430 — 520) |                |
| P6  | M/A/D/E                                                                           | 0.0300             | 0.80               | 0.0030         | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.034  | 0.044  | 0.050  | 155 (140 — 170) |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00012        | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0013 | 0,0017 | 0,0020 | 510 (460 — 550) |                |
| P7  | M/A/D/E                                                                           | 0.0300             | 0.80               | 0.0030         | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.034  | 0.044  | 0.050  | 150 (130 — 160) |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00012        | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0013 | 0,0017 | 0,0020 | 490 (430 — 520) |                |
| P8  | M/A/D/E                                                                           | 0.0300             | 0.80               | 0.0032         | 0.0060  | 0.0095  | 0.013   | 0.016   | 0.019   | 0.025   | 0.032  | 0.036  | 0.046  | 0.055  | 140 (120 — 150) |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00013        | 0,00024 | 0,00038 | 0,00050 | 0,00065 | 0,00075 | 0,0010  | 0,0013 | 0,0014 | 0,0018 | 0,0022 | 460 (400 — 490) |                |
| P11 | M/A/D/E                                                                           | 0.0300             | 0.80               | 0.0044         | 0.0090  | 0.013   | 0.018   | 0.022   | 0.026   | 0.036   | 0.044  | 0.050  | 0.065  | 0.075  | 140 (130 — 160) |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00017        | 0,00036 | 0,00050 | 0,00070 | 0,00085 | 0,0010  | 0,0014  | 0,0017 | 0,0020 | 0,0026 | 0,0030 | 460 (430 — 520) |                |
| P12 | M/A/D/E                                                                           | 0.0300             | 0.80               | 0.0030         | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.044  | 0.050  | 85 (73 — 97)    |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00012        | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 0,0017 | 0,0020 | 280 (240 — 310) |                |
| M1  | E                                                                                 | 0.0300             | 0.80               | 0.0034         | 0.0065  | 0.010   | 0.013   | 0.017   | 0.020   | 0.026   | 0.034  | 0.038  | 0.048  | 0.055  | 125 (99 — 140)  |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00013        | 0,00026 | 0,00040 | 0,00050 | 0,00065 | 0,00080 | 0,0010  | 0,0013 | 0,0015 | 0,0019 | 0,0022 | 410 (330 — 450) |                |
| M2  | E                                                                                 | 0.0300             | 0.80               | 0.0030         | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.044  | 0.050  | 100 (80 — 120)  |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00012        | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 0,0017 | 0,0020 | 330 (270 — 390) |                |
| M3  | E                                                                                 | 0.0300             | 0.80               | 0.0030         | 0.0060  | 0.0090  | 0.012   | 0.015   | 0.018   | 0.024   | 0.030  | 0.036  | 0.044  | 0.050  | 70 (50 — 90)    |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00012        | 0,00024 | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 0,0017 | 0,0020 | 230 (170 — 290) |                |
| M4  | E                                                                                 | 0.0300             | 0.80               | 0.0026         | 0.0050  | 0.0080  | 0.011   | 0.013   | 0.016   | 0.022   | 0.026  | 0.030  | 0.038  | 0.044  | 55 (38 — 67)    |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00010        | 0,00020 | 0,00032 | 0,00044 | 0,00050 | 0,00065 | 0,00085 | 0,0010 | 0,0012 | 0,0015 | 0,0017 | 180 (130 — 210) |                |
| M5  | E                                                                                 | 0.0300             | 0.80               | 0.0026         | 0.0050  | 0.0080  | 0.011   | 0.013   | 0.016   | 0.022   | 0.026  | 0.030  | 0.038  | 0.044  | 44 (32 — 56)    |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00010        | 0,00020 | 0,00032 | 0,00044 | 0,00050 | 0,00065 | 0,00085 | 0,0010 | 0,0012 | 0,0015 | 0,0017 | 145 (110 — 180) |                |
| K1  | E                                                                                 | 0.0300             | 0.80               | 0.0040         | 0.0080  | 0.012   | 0.016   | 0.020   | 0.024   | 0.032   | 0.040  | 0.046  | 0.060  | 0.070  | 145 (130 — 160) |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00016        | 0,00032 | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0013  | 0,0016 | 0,0018 | 0,0024 | 0,0028 | 475 (430 — 520) |                |
| K2  | E                                                                                 | 0.0300             | 0.80               | 0.0036         | 0.0075  | 0.011   | 0.015   | 0.018   | 0.022   | 0.030   | 0.036  | 0.042  | 0.055  | 0.060  | 125 (110 — 140) |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00014        | 0,00030 | 0,00044 | 0,00060 | 0,00070 | 0,00085 | 0,0012  | 0,0014 | 0,0017 | 0,0022 | 0,0024 | 410 (370 — 450) |                |
| K3  | E                                                                                 | 0.0300             | 0.80               | 0.0050         | 0.010   | 0.015   | 0.020   | 0.025   | 0.030   | 0.040   | 0.050  | 0.060  | 0.075  | 0.085  | 105 (91 — 110)  |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00020        | 0,00040 | 0,00060 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0020 | 0,0024 | 0,0030 | 0,0034 | 345 (300 — 360) |                |
| K4  | E                                                                                 | 0.0300             | 0.80               | 0.0050         | 0.010   | 0.015   | 0.020   | 0.025   | 0.030   | 0.040   | 0.050  | 0.060  | 0.075  | 0.085  | 120 (100 — 140) |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00020        | 0,00040 | 0,00060 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0020 | 0,0024 | 0,0030 | 0,0034 | 395 (330 — 450) |                |
| K5  | E                                                                                 | 0.0300             | 0.80               | 0.0044         | 0.0090  | 0.013   | 0.018   | 0.022   | 0.026   | 0.036   | 0.044  | 0.055  | 0.065  | 0.075  | 70 (61 — 84)    |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00017        | 0,00036 | 0,00050 | 0,00070 | 0,00085 | 0,0010  | 0,0014  | 0,0017 | 0,0022 | 0,0026 | 0,0030 | 230 (210 — 270) |                |
| K6  | E                                                                                 | 0.0300             | 0.80               | 0.0050         | 0.010   | 0.015   | 0.020   | 0.025   | 0.030   | 0.040   | 0.050  | 0.060  | 0.075  | 0.085  | 105 (89 — 120)  |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00020        | 0,00040 | 0,00060 | 0,00080 | 0,0010  | 0,0012  | 0,0016  | 0,0020 | 0,0024 | 0,0030 | 0,0034 | 345 (300 — 390) |                |
| K7  | E                                                                                 | 0.0300             | 0.80               | 0.0044         | 0.0090  | 0.013   | 0.018   | 0.022   | 0.026   | 0.036   | 0.044  | 0.055  | 0.065  | 0.075  | 155 (130 — 180) |                |
|     |                                                                                   | 0,0300             | 0,80               | 0,00017        | 0,00036 | 0,00050 | 0,00070 | 0,00085 | 0,0010  | 0,0014  | 0,0017 | 0,0022 | 0,0026 | 0,0030 | 510 (430 — 590) |                |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

### Cutting data – JS533 Copy milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                   |                  |                  |                  |                  |                 |                 |                 |                 |                                       | v <sub>c</sub> |  |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|----------------|--|
|     |                                                                                   |                    |                    | 1                 | 2                 | 3                 | 4                | 5                | 6                | 8                | 10              | 12              | 16              | 20              |                                       |                |  |
| N1  | E                                                                                 | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.0050<br>0,00020 | 0.010<br>0,00040  | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 800 (700 — 900)<br>2625 (2300 — 2900) |                |  |
| N2  | E                                                                                 | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.0050<br>0,00020 | 0.010<br>0,00040  | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 510 (450 — 570)<br>1675 (1500 — 1800) |                |  |
| N3  | E                                                                                 | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.0050<br>0,00020 | 0.010<br>0,00040  | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 345 (300 — 380)<br>1125 (990 — 1200)  |                |  |
| N11 | E                                                                                 | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.0040<br>0,00016 | 0.0080<br>0,00032 | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.070<br>0,0028 | 400 (350 — 450)<br>1300 (1200 — 1400) |                |  |
| S1  | E                                                                                 | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.0030<br>0,00012 | 0.0060<br>0,00024 | 0.0090<br>0,00036 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 100 (90 — 110)<br>330 (300 — 360)     |                |  |
| S2  | E                                                                                 | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.0030<br>0,00012 | 0.0060<br>0,00024 | 0.0090<br>0,00036 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 80 (73 — 88)<br>260 (240 — 280)       |                |  |
| S11 | E                                                                                 | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.0030<br>0,00012 | 0.0060<br>0,00024 | 0.0090<br>0,00036 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 130 (120 — 140)<br>425 (400 — 450)    |                |  |
| S12 | E                                                                                 | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.0030<br>0,00012 | 0.0060<br>0,00024 | 0.0090<br>0,00036 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 100 (91 — 110)<br>330 (300 — 360)     |                |  |
| S13 | E                                                                                 | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.0026<br>0,00010 | 0.0050<br>0,00020 | 0.0080<br>0,00032 | 0.011<br>0,00044 | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.022<br>0,00085 | 0.026<br>0,0010 | 0.030<br>0,0012 | 0.038<br>0,0015 | 0.044<br>0,0017 | 80 (70 — 85)<br>260 (230 — 270)       |                |  |
| TS1 | A                                                                                 | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.0040<br>0,00016 | 0.0080<br>0,00032 | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.070<br>0,0028 | 800 (760 — 850)<br>2625 (2500 — 2700) |                |  |
| TP1 | A                                                                                 | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.0040<br>0,00016 | 0.0080<br>0,00032 | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.070<br>0,0028 | 800 (760 — 850)<br>2625 (2500 — 2700) |                |  |
| GR1 | A                                                                                 | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.0040<br>0,00016 | 0.0080<br>0,00032 | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.070<br>0,0028 | 800 (760 — 850)<br>2625 (2500 — 2700) |                |  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

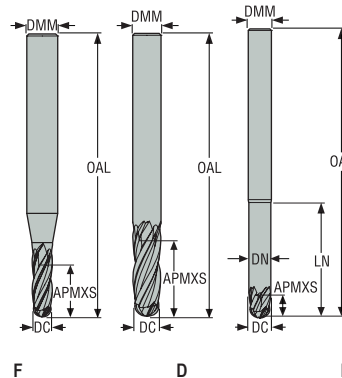
Graphite

X-Heads

Minimaster

## JS534

High performance – Universal – Ball nose – 4 Flutes – Cylindrical



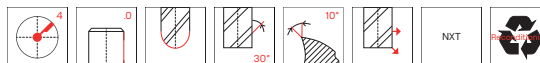
—Tolerances:

—DMM=h5

—DC=e8

—RE= ±0,01 mm

—Regrind possible if DC is ≥Ø6

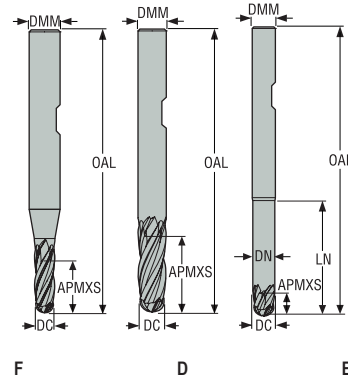


| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN    | DN   | RE   | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|-------|------|------|-------|-------------|----------------|
| JS534020F1B.0Z4-NXT | 02928366    | 1            | F          | 2,0  | 3,0  | 6,0   | 38,0  | —     | —    | 1,0  | 4     | Cylindrical | ■              |
| JS534030D1B.0Z4-NXT | 02928367    | 1            | D          | 3,0  | 3,0  | 9,0   | 38,0  | —     | —    | 1,5  | 4     | Cylindrical | ■              |
| JS534040F1B.0Z4-NXT | 02928368    | 1            | F          | 4,0  | 6,0  | 12,0  | 57,0  | —     | —    | 2,0  | 4     | Cylindrical | ■              |
| JS534050F1B.0Z4-NXT | 02928370    | 1            | F          | 5,0  | 6,0  | 15,0  | 57,0  | —     | —    | 2,5  | 4     | Cylindrical | ■              |
| JS534060D1B.0Z4-NXT | 02928372    | 1            | D          | 6,0  | 6,0  | 18,0  | 57,0  | —     | —    | 3,0  | 4     | Cylindrical | ■              |
| JS534080D1B.0Z4-NXT | 02928375    | 1            | D          | 8,0  | 8,0  | 24,0  | 69,0  | —     | —    | 4,0  | 4     | Cylindrical | ■              |
| JS534100D1B.0Z4-NXT | 02928378    | 1            | D          | 10,0 | 10,0 | 30,0  | 82,0  | —     | —    | 5,0  | 4     | Cylindrical | ■              |
| JS534120D1B.0Z4-NXT | 02928381    | 1            | D          | 12,0 | 12,0 | 36,0  | 100,0 | —     | —    | 6,0  | 4     | Cylindrical | ■              |
| JS534160D1B.0Z4-NXT | 02928384    | 1            | D          | 16,0 | 16,0 | 48,0  | 110,0 | —     | —    | 8,0  | 4     | Cylindrical | ■              |
| JS534200D1B.0Z4-NXT | 02928387    | 1            | D          | 20,0 | 20,0 | 60,0  | 125,0 | —     | —    | 10,0 | 4     | Cylindrical | ■              |
| JS534040F2B.0Z4-NXT | 02928369    | 2            | F          | 4,0  | 6,0  | 20,0  | 63,0  | —     | —    | 2,0  | 4     | Cylindrical | ■              |
| JS534050F2B.0Z4-NXT | 02928371    | 2            | F          | 5,0  | 6,0  | 25,0  | 75,0  | —     | —    | 2,5  | 4     | Cylindrical | ■              |
| JS534060D2B.0Z4-NXT | 02928373    | 2            | D          | 6,0  | 6,0  | 30,0  | 75,0  | —     | —    | 3,0  | 4     | Cylindrical | ■              |
| JS534080D2B.0Z4-NXT | 02928376    | 2            | D          | 8,0  | 8,0  | 40,0  | 80,0  | —     | —    | 4,0  | 4     | Cylindrical | ■              |
| JS534100D2B.0Z4-NXT | 02928379    | 2            | D          | 10,0 | 10,0 | 50,0  | 100,0 | —     | —    | 5,0  | 4     | Cylindrical | ■              |
| JS534120D2B.0Z4-NXT | 02928382    | 2            | D          | 12,0 | 12,0 | 60,0  | 125,0 | —     | —    | 6,0  | 4     | Cylindrical | ■              |
| JS534160D2B.0Z4-NXT | 02928385    | 2            | D          | 16,0 | 16,0 | 80,0  | 130,0 | —     | —    | 8,0  | 4     | Cylindrical | ■              |
| JS534060E3B.0Z4-NXT | 02928374    | 3            | E          | 6,0  | 6,0  | 6,0   | 75,0  | 30,0  | 5,7  | 3,0  | 4     | Cylindrical | ■              |
| JS534080E3B.0Z4-NXT | 02928377    | 3            | E          | 8,0  | 8,0  | 8,0   | 80,0  | 40,0  | 7,6  | 4,0  | 4     | Cylindrical | ■              |
| JS534100E3B.0Z4-NXT | 02928380    | 3            | E          | 10,0 | 10,0 | 10,0  | 100,0 | 50,0  | 9,7  | 5,0  | 4     | Cylindrical | ■              |
| JS534120E3B.0Z4-NXT | 02928383    | 3            | E          | 12,0 | 12,0 | 12,0  | 125,0 | 60,0  | 11,4 | 6,0  | 4     | Cylindrical | ■              |
| JS534160E3B.0Z4-NXT | 02928386    | 3            | E          | 16,0 | 16,0 | 16,0  | 130,0 | 80,0  | 15,2 | 8,0  | 4     | Cylindrical | ■              |
| JS534200E3B.0Z4-NXT | 02928388    | 3            | E          | 20,0 | 20,0 | 20,0  | 150,0 | 100,0 | 19,0 | 10,0 | 4     | Cylindrical | ■              |

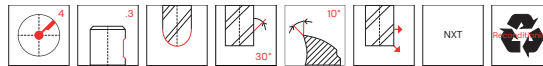
■ Stocked standard.

## JS534

High performance – Universal – Ball nose – 4 Flutes – Weldon



- Tolerances:
- DMM=h5
- DC=e8
- RE= ±0,01 mm
- Regrind possible if DC is ≥Ø6



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN    | DN   | RE   | PCEDC | Shank  | Stock standard           |
|---------------------|-------------|--------------|------------|------|------|-------|-------|-------|------|------|-------|--------|--------------------------|
|                     |             |              |            | mm   | mm   | mm    | mm    | mm    | mm   | mm   |       |        |                          |
| JS534040F1B.3Z4-NXT | 02928390    | 1            | F          | 4,0  | 6,0  | 12,0  | 57,0  | —     | —    | 2,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534050F1B.3Z4-NXT | 02928392    | 1            | F          | 5,0  | 6,0  | 15,0  | 57,0  | —     | —    | 2,5  | 4     | Weldon | <input type="checkbox"/> |
| JS534060D1B.3Z4-NXT | 02928394    | 1            | D          | 6,0  | 6,0  | 18,0  | 57,0  | —     | —    | 3,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534080D1B.3Z4-NXT | 02928397    | 1            | D          | 8,0  | 8,0  | 24,0  | 69,0  | —     | —    | 4,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534100D1B.3Z4-NXT | 02928400    | 1            | D          | 10,0 | 10,0 | 30,0  | 82,0  | —     | —    | 5,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534120D1B.3Z4-NXT | 02928403    | 1            | D          | 12,0 | 12,0 | 36,0  | 100,0 | —     | —    | 6,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534160D1B.3Z4-NXT | 02928406    | 1            | D          | 16,0 | 16,0 | 48,0  | 110,0 | —     | —    | 8,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534200D1B.3Z4-NXT | 02928409    | 1            | D          | 20,0 | 20,0 | 60,0  | 125,0 | —     | —    | 10,0 | 4     | Weldon | <input type="checkbox"/> |
| JS534040F2B.3Z4-NXT | 02928391    | 2            | F          | 4,0  | 6,0  | 20,0  | 63,0  | —     | —    | 2,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534050F2B.3Z4-NXT | 02928393    | 2            | F          | 5,0  | 6,0  | 25,0  | 75,0  | —     | —    | 2,5  | 4     | Weldon | <input type="checkbox"/> |
| JS534060D2B.3Z4-NXT | 02928395    | 2            | D          | 6,0  | 6,0  | 30,0  | 75,0  | —     | —    | 3,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534080D2B.3Z4-NXT | 02928398    | 2            | D          | 8,0  | 8,0  | 40,0  | 80,0  | —     | —    | 4,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534100D2B.3Z4-NXT | 02928401    | 2            | D          | 10,0 | 10,0 | 50,0  | 100,0 | —     | —    | 5,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534120D2B.3Z4-NXT | 02928404    | 2            | D          | 12,0 | 12,0 | 60,0  | 125,0 | —     | —    | 6,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534160D2B.3Z4-NXT | 02928407    | 2            | D          | 16,0 | 16,0 | 80,0  | 130,0 | —     | —    | 8,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534060E3B.3Z4-NXT | 02928396    | 3            | E          | 6,0  | 6,0  | 6,0   | 75,0  | 30,0  | 5,7  | 3,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534080E3B.3Z4-NXT | 02928399    | 3            | E          | 8,0  | 8,0  | 8,0   | 80,0  | 40,0  | 7,6  | 4,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534100E3B.3Z4-NXT | 02928402    | 3            | E          | 10,0 | 10,0 | 10,0  | 100,0 | 50,0  | 9,7  | 5,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534120E3B.3Z4-NXT | 02928405    | 3            | E          | 12,0 | 12,0 | 12,0  | 125,0 | 60,0  | 11,4 | 6,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534160E3B.3Z4-NXT | 02928408    | 3            | E          | 16,0 | 16,0 | 16,0  | 130,0 | 80,0  | 15,2 | 8,0  | 4     | Weldon | <input type="checkbox"/> |
| JS534200E3B.3Z4-NXT | 02928410    | 3            | E          | 20,0 | 20,0 | 20,0  | 150,0 | 100,0 | 19,0 | 10,0 | 4     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JS534 Copy milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>    |                  |                  |                  |                  |                 |                 |                 |                 |                 | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                    |                    | 2                 | 3                | 4                | 5                | 6                | 8               | 10              | 12              | 16              | 20              |                                       |
| P1  | M/A/D/E                                                                           | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0085<br>0,00034 | 0.013<br>0,00050 | 0.017<br>0,00065 | 0.022<br>0,00085 | 0.026<br>0,0010  | 0.034<br>0,0013 | 0.044<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 345 (310 — 370)<br>1125 (1100 — 1200) |
| P2  | M/A/D/E                                                                           | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0090<br>0,00036 | 0.013<br>0,00050 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.026<br>0,0010  | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 335 (300 — 360)<br>1100 (990 — 1100)  |
| P3  | M/A/D/E                                                                           | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0085<br>0,00034 | 0.012<br>0,00048 | 0.017<br>0,00065 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 290 (260 — 310)<br>950 (860 — 1000)   |
| P4  | M/A/D/E                                                                           | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 255 (230 — 280)<br>840 (760 — 910)    |
| P5  | M/A/D/E                                                                           | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 245 (220 — 260)<br>800 (730 — 850)    |
| P6  | M/A/D/E                                                                           | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.065<br>0,0026 | 230 (210 — 250)<br>750 (690 — 820)    |
| P7  | M/A/D/E                                                                           | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.065<br>0,0026 | 220 (200 — 240)<br>720 (660 — 780)    |
| P8  | M/A/D/E                                                                           | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0085<br>0,00034 | 0.012<br>0,00048 | 0.017<br>0,00065 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 205 (190 — 220)<br>670 (630 — 720)    |
| P11 | M/A/D/E                                                                           | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 210 (190 — 230)<br>690 (630 — 750)    |
| P12 | M/A/D/E                                                                           | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 125 (120 — 130)<br>410 (400 — 420)    |
| M1  | E                                                                                 | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0090<br>0,00036 | 0.013<br>0,00050 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.026<br>0,0010  | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 180 (160 — 200)<br>590 (530 — 650)    |
| M2  | E                                                                                 | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 145 (130 — 160)<br>475 (430 — 520)    |
| M3  | E                                                                                 | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 155 (140 — 180)<br>510 (460 — 590)    |
| M4  | E                                                                                 | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0070<br>0,00028 | 0.010<br>0,00040 | 0.014<br>0,00055 | 0.017<br>0,00065 | 0.020<br>0,00080 | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 120 (100 — 130)<br>395 (330 — 420)    |
| M5  | E                                                                                 | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0070<br>0,00028 | 0.010<br>0,00040 | 0.014<br>0,00055 | 0.017<br>0,00065 | 0.020<br>0,00080 | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 100 (83 — 110)<br>330 (280 — 360)     |
| K1  | E                                                                                 | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 245 (220 — 260)<br>800 (730 — 850)    |
| K2  | E                                                                                 | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0075<br>0,00030 | 0.011<br>0,00044 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.060<br>0,0024 | 215 (200 — 230)<br>710 (660 — 750)    |
| K3  | E                                                                                 | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 180 (160 — 190)<br>590 (530 — 620)    |
| K4  | E                                                                                 | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 170 (160 — 180)<br>560 (530 — 590)    |
| K5  | E                                                                                 | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0070<br>0,00028 | 0.011<br>0,00044 | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.060<br>0,0024 | 200 (180 — 220)<br>660 (600 — 720)    |
| K6  | E                                                                                 | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 295 (260 — 330)<br>970 (860 — 1000)   |
| K7  | E                                                                                 | 0.0300<br>0,0300   | 4.0<br>4,0         | 0.0070<br>0,00028 | 0.011<br>0,00044 | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.060<br>0,0024 | 260 (230 — 280)<br>850 (760 — 910)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – JS534 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$   | $f_z$             |                  |                  |                  |                  |                 |                 |                 |                 |                 | $v_c$                                   |
|-----|-----------------------------------------------------------------------------------|------------------|------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------------------------|
|     |                                                                                   |                  |            | 2                 | 3                | 4                | 5                | 6                | 8               | 10              | 12              | 16              | 20              |                                         |
| N1  | E                                                                                 | 0.0300<br>0,0300 | 4.0<br>4,0 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 1025 (910 — 1100)<br>3375 (3000 — 3600) |
| N2  | E                                                                                 | 0.0300<br>0,0300 | 4.0<br>4,0 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 910 (780 — 1000)<br>2975 (2600 — 3200)  |
| N3  | E                                                                                 | 0.0300<br>0,0300 | 4.0<br>4,0 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 600 (520 — 690)<br>1975 (1800 — 2200)   |
| N11 | E                                                                                 | 0.0300<br>0,0300 | 4.0<br>4,0 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 500 (440 — 560)<br>1650 (1500 — 1800)   |
| S1  | E                                                                                 | 0.0300<br>0,0300 | 4.0<br>4,0 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 110 (88 — 110)<br>360 (290 — 360)       |
| S2  | E                                                                                 | 0.0300<br>0,0300 | 4.0<br>4,0 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 90 (71 — 90)<br>295 (240 — 290)         |
| S3  | E                                                                                 | 0.0300<br>0,0300 | 4.0<br>4,0 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 85 (63 — 87)<br>280 (210 — 280)         |
| S11 | E                                                                                 | 0.0300<br>0,0300 | 4.0<br>4,0 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 185 (150 — 180)<br>610 (500 — 590)      |
| S12 | E                                                                                 | 0.0300<br>0,0300 | 4.0<br>4,0 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 140 (120 — 140)<br>460 (400 — 450)      |
| S13 | E                                                                                 | 0.0300<br>0,0300 | 4.0<br>4,0 | 0.0070<br>0,00028 | 0.010<br>0,00040 | 0.014<br>0,00055 | 0.017<br>0,00065 | 0.020<br>0,00080 | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.060<br>0,0024 | 110 (91 — 110)<br>360 (300 — 360)       |
| TS1 | A                                                                                 | 0.0300<br>0,0300 | 4.0<br>4,0 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 900 (840 — 960)<br>2950 (2800 — 3100)   |
| TP1 | A                                                                                 | 0.0300<br>0,0300 | 4.0<br>4,0 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 900 (840 — 960)<br>2950 (2800 — 3100)   |
| GR1 | A                                                                                 | 0.0300<br>0,0300 | 4.0<br>4,0 | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 900 (840 — 960)<br>2950 (2800 — 3100)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

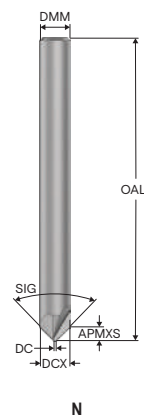
Graphite

X-Heads

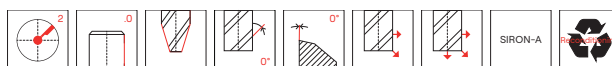
Minimaster

## C5021

General purpose – Universal – Chamfer – 2 Flutes – Cylindrical – Inch



—Tolerances:  
—DMM=−.0001"/−.0004"  
—SIG= ±1°  
—Regrind possible if DC is ≥Ø.375



| Designation          | Grade | Item number | Length index | Tool shape | DCX   | DC    | DMM   | APMXS | OAL   | PSIR° | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| C5021-.250N1S.0Z2T30 | SIRA  | 10268641    | 1            | N          | inch  | inch  | inch  | inch  | inch  | 30,0  | 2     | Cylindrical | ■              |
| C5021-.250N1S.0Z2T45 | SIRA  | 10268644    | 1            | N          | 0.250 | 0.035 | 0.250 | 0.186 | 2.500 | 45,0  | 2     | Cylindrical | ■              |
| C5021-.375N1S.0Z2T30 | SIRA  | 10268642    | 1            | N          | 0.375 | 0.040 | 0.375 | 0.290 | 2.500 | 30,0  | 2     | Cylindrical | ■              |
| C5021-.375N1S.0Z2T45 | SIRA  | 10268645    | 1            | N          | 0.375 | 0.040 | 0.375 | 0.168 | 2.500 | 45,0  | 2     | Cylindrical | ■              |
| C5021-.500N1S.0Z2T30 | SIRA  | 10268643    | 1            | N          | 0.500 | 0.045 | 0.500 | 0.186 | 3.000 | 30,0  | 2     | Cylindrical | ■              |
| C5021-.500N1S.0Z2T45 | SIRA  | 10268646    | 1            | N          | 0.500 | 0.045 | 0.500 | 0.228 | 3.000 | 45,0  | 2     | Cylindrical | ■              |

■ Stocked standard.



Cutting data – C5021 Chamfering – Inch

| SMG |  | $a_e/DCX$    | $a_p/DCX$  | $f_z$           |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|--------------|------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |              |            | 1/4             | 3/8             | 1/2             |                                    |
| P1  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,05<br>0,0020  | 0,055<br>0,0022 | 0,065<br>0,0026 | 205 (160 — 230)<br>670 (530 — 750) |
| P2  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,044<br>0,0017 | 0,05<br>0,0020  | 0,055<br>0,0022 | 195 (160 — 230)<br>640 (530 — 750) |
| P3  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,044<br>0,0017 | 0,05<br>0,0020  | 0,055<br>0,0022 | 165 (130 — 180)<br>540 (430 — 590) |
| P4  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,044<br>0,0017 | 0,05<br>0,0020  | 0,055<br>0,0022 | 140 (120 — 160)<br>460 (400 — 520) |
| P5  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,044<br>0,0017 | 0,05<br>0,0020  | 0,055<br>0,0022 | 135 (120 — 170)<br>445 (400 — 550) |
| P6  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,044<br>0,0017 | 0,05<br>0,0020  | 0,055<br>0,0022 | 160 (120 — 170)<br>520 (400 — 550) |
| P7  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,044<br>0,0017 | 0,05<br>0,0020  | 0,055<br>0,0022 | 145 (120 — 180)<br>475 (400 — 590) |
| P8  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,044<br>0,0017 | 0,05<br>0,0020  | 0,055<br>0,0022 | 135 (120 — 150)<br>445 (400 — 490) |
| P11 | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,044<br>0,0017 | 0,05<br>0,0020  | 0,055<br>0,0022 | 85 (69 — 110)<br>280 (230 — 360)   |
| P12 | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,032<br>0,0013 | 0,038<br>0,0015 | 0,042<br>0,0017 | 60 (49 — 91)<br>195 (170 — 290)    |
| M1  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,05<br>0,0020  | 0,06<br>0,0024  | 0,065<br>0,0026 | 120 (110 — 150)<br>395 (370 — 490) |
| M2  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,042<br>0,0017 | 0,05<br>0,0020  | 0,055<br>0,0022 | 80 (65 — 100)<br>260 (220 — 320)   |
| M3  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,05<br>0,0020  | 0,055<br>0,0022 | 0,065<br>0,0026 | 75 (59 — 100)<br>245 (200 — 320)   |
| M4  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,05<br>0,0020  | 0,055<br>0,0022 | 0,065<br>0,0026 | 43 (30 — 59)<br>140 (99 — 190)     |
| M5  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,044<br>0,0017 | 0,05<br>0,0020  | 0,06<br>0,0024  | 36 (19 — 55)<br>120 (63 — 180)     |
| K1  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,044<br>0,0017 | 0,05<br>0,0020  | 0,055<br>0,0022 | 195 (160 — 240)<br>640 (530 — 780) |
| K2  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,075<br>0,0030 | 170 (150 — 200)<br>560 (500 — 650) |
| K3  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,044<br>0,0017 | 0,05<br>0,0020  | 0,055<br>0,0022 | 145 (130 — 160)<br>475 (430 — 520) |
| K4  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,044<br>0,0017 | 0,05<br>0,0020  | 0,055<br>0,0022 | 130 (110 — 150)<br>425 (370 — 490) |
| K5  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,042<br>0,0017 | 0,048<br>0,0019 | 0,055<br>0,0022 | 85 (65 — 110)<br>280 (220 — 360)   |
| K6  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,04<br>0,0016  | 0,048<br>0,0019 | 0,055<br>0,0022 | 130 (120 — 160)<br>425 (400 — 520) |
| K7  | E                                                                                 | 0,02<br>0,02 | 0,3<br>0,3 | 0,04<br>0,0016  | 0,048<br>0,0019 | 0,055<br>0,0022 | 110 (94 — 140)<br>360 (310 — 450)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrrp

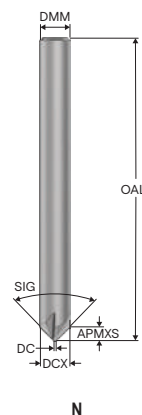
Graphite

X-Heads

Minimaster

## C5041

General purpose – Universal – Chamfer – 4 Flutes – Cylindrical – Inch



—Tolerances:

—DMM=±.0001"/±.0004"

—SIG= ±1°

—Regrind possible if DMM is ≥Ø.375"



| Designation          | Grade | Item number | Length index | Tool shape | DCX   | DC    | DMM   | APMXS | OAL   | PSIR° | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| C5041-.250N1S.0Z4T30 | SIRA  | 10268647    | 1            | N          | inch  | inch  | inch  | inch  | inch  | 30,0  | 4     | Cylindrical | ■              |
| C5041-.250N1S.0Z4T45 | SIRA  | 10268652    | 1            | N          | 0.250 | 0.035 | 0.250 | 0.186 | 2.500 | 45,0  | 4     | Cylindrical | ■              |
| C5041-.375N1S.0Z4T30 | SIRA  | 10268648    | 1            | N          | 0.375 | 0.040 | 0.375 | 0.290 | 2.500 | 30,0  | 4     | Cylindrical | ■              |
| C5041-.375N1S.0Z4T45 | SIRA  | 10268653    | 1            | N          | 0.375 | 0.040 | 0.375 | 0.168 | 2.500 | 45,0  | 4     | Cylindrical | ■              |
| C5041-.500N1S.0Z4T30 | SIRA  | 10268649    | 1            | N          | 0.500 | 0.045 | 0.500 | 0.394 | 3.000 | 30,0  | 4     | Cylindrical | ■              |
| C5041-.500N1S.0Z4T45 | SIRA  | 10268654    | 1            | N          | 0.500 | 0.045 | 0.500 | 0.228 | 3.000 | 45,0  | 4     | Cylindrical | ■              |
| C5041-.750N1S.0Z4T30 | SIRA  | 10268651    | 1            | N          | 0.750 | 0.055 | 0.750 | 0.602 | 3.000 | 30,0  | 4     | Cylindrical | ■              |
| C5041-.750N1S.0Z4T45 | SIRA  | 10268655    | 1            | N          | 0.750 | 0.055 | 0.750 | 0.348 | 3.000 | 45,0  | 4     | Cylindrical | ■              |

■ Stocked standard.

## Cutting data – C5041 Chamfering – Inch

| SMG |  | $a_e/DCX$    | $a_p/DCX$  | $f_z$           |                 |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|--------------|------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |              |            | 1/4             | 3/8             | 1/2             | 3/4             |                                    |
| P1  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,08<br>0.0032  | 205 (160 — 230)<br>670 (530 — 750) |
| P2  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,044<br>0.0017 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,07<br>0.0028  | 195 (160 — 230)<br>640 (530 — 750) |
| P3  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,044<br>0.0017 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,07<br>0.0028  | 165 (130 — 180)<br>540 (430 — 590) |
| P4  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,044<br>0.0017 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,07<br>0.0028  | 140 (120 — 160)<br>460 (400 — 520) |
| P5  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,044<br>0.0017 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,07<br>0.0028  | 135 (120 — 170)<br>445 (400 — 550) |
| P6  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,044<br>0.0017 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,07<br>0.0028  | 160 (120 — 170)<br>520 (400 — 550) |
| P7  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,044<br>0.0017 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,07<br>0.0028  | 145 (120 — 180)<br>475 (400 — 590) |
| P8  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,044<br>0.0017 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,07<br>0.0028  | 135 (120 — 150)<br>445 (400 — 490) |
| P11 | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,044<br>0.0017 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,07<br>0.0028  | 85 (69 — 110)<br>280 (230 — 360)   |
| P12 | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,032<br>0.0013 | 0,038<br>0.0015 | 0,042<br>0.0017 | 0,05<br>0.0020  | 60 (49 — 91)<br>195 (170 — 290)    |
| M1  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,05<br>0.0020  | 0,06<br>0.0024  | 0,065<br>0.0026 | 0,08<br>0.0032  | 120 (110 — 150)<br>395 (370 — 490) |
| M2  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,042<br>0.0017 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,065<br>0.0026 | 80 (65 — 100)<br>260 (220 — 320)   |
| M3  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,08<br>0.0032  | 75 (59 — 100)<br>245 (200 — 320)   |
| M4  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,08<br>0.0032  | 43 (30 — 59)<br>140 (99 — 190)     |
| M5  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,044<br>0.0017 | 0,05<br>0.0020  | 0,06<br>0.0024  | 0,07<br>0.0028  | 36 (19 — 55)<br>120 (63 — 180)     |
| K1  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,044<br>0.0017 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,07<br>0.0028  | 195 (160 — 240)<br>640 (530 — 780) |
| K2  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,085<br>0.0034 | 170 (150 — 200)<br>560 (500 — 650) |
| K3  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,044<br>0.0017 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,07<br>0.0028  | 145 (130 — 160)<br>475 (430 — 520) |
| K4  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,044<br>0.0017 | 0,05<br>0.0020  | 0,055<br>0.0022 | 0,07<br>0.0028  | 130 (110 — 150)<br>425 (370 — 490) |
| K5  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,042<br>0.0017 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,065<br>0.0026 | 85 (65 — 110)<br>280 (220 — 360)   |
| K6  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,04<br>0.0016  | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,06<br>0.0024  | 130 (120 — 160)<br>425 (400 — 520) |
| K7  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,04<br>0.0016  | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,06<br>0.0024  | 110 (94 — 140)<br>360 (310 — 450)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrrp

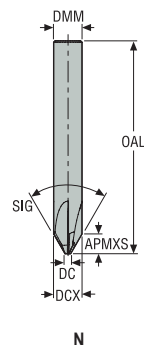
Graphite

X-Heads

Minimaster

## JS506

General purpose – Universal – Chamfer – 3-4 Flutes – Cylindrical

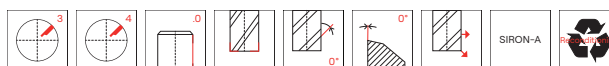


—Tolerances:

—DMM=h5

—SIG= ±0,5°

—Regrind possible if DMM is ≥Ø6

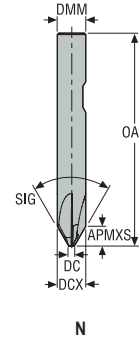


| Designation          | Item number | Length index | Tool shape | DCX  | DC  | DMM  | APMXS | OAL  | PSIR° | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|------|-----|------|-------|------|-------|-------|-------------|----------------|
| JS506030N2CZ3.0-SIRA | 02881622    | 2            | N          | mm   | mm  | mm   | mm    | mm   |       |       |             |                |
|                      |             |              |            | 3,0  | 0,6 | 3,0  | 2,0   | 50,0 | 30,0  | 3     | Cylindrical | ■              |
| JS506040N2CZ3.0-SIRA | 02881623    | 2            | N          | 4,0  | 0,8 | 4,0  | 2,7   | 50,0 | 30,0  | 3     | Cylindrical | ■              |
| JS506060N2CZ4.0-SIRA | 02881624    | 2            | N          | 6,0  | 1,2 | 6,0  | 4,1   | 57,0 | 30,0  | 4     | Cylindrical | ■              |
| JS506080N2CZ4.0-SIRA | 02881626    | 2            | N          | 8,0  | 1,6 | 8,0  | 5,5   | 63,0 | 30,0  | 4     | Cylindrical | ■              |
| JS506100N2CZ4.0-SIRA | 02881628    | 2            | N          | 10,0 | 2,0 | 10,0 | 6,9   | 72,0 | 30,0  | 4     | Cylindrical | ■              |
| JS506120N2CZ4.0-SIRA | 02881630    | 2            | N          | 12,0 | 2,4 | 12,0 | 8,3   | 83,0 | 30,0  | 4     | Cylindrical | ■              |

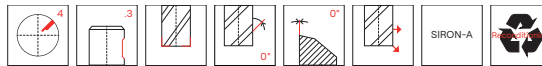
■ Stocked standard.

## JS506

General purpose – Universal – Chamfer – 3-4 Flutes – Weldon



- Tolerances:
- DMM=h5
- SIG=  $\pm 0,5^\circ$
- Regrind possible



| Designation          | Item number | Length index | Tool shape | DCX  | DC  | DMM  | APMXS | OAL  | PSIR° | PCEDC | Shank  | Stock standard |
|----------------------|-------------|--------------|------------|------|-----|------|-------|------|-------|-------|--------|----------------|
| JS506060N2CZ4.3-SIRA | 02881625    | 2            | N          | mm   | mm  | mm   | mm    | mm   | 30,0  | 4     | Weldon | ■              |
| JS506080N2CZ4.3-SIRA | 02881627    | 2            | N          | 8,0  | 1,6 | 8,0  | 5,5   | 63,0 | 30,0  | 4     | Weldon | ■              |
| JS506100N2CZ4.3-SIRA | 02881629    | 2            | N          | 10,0 | 2,0 | 10,0 | 6,9   | 72,0 | 30,0  | 4     | Weldon | ■              |
| JS506120N2CZ4.3-SIRA | 02881631    | 2            | N          | 12,0 | 2,4 | 12,0 | 8,3   | 83,0 | 30,0  | 4     | Weldon | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JS506 Chamfering

| SMG |  | $a_e/DCX$    | $a_p/DCX$  | $f_z$            |                  |                 |                 |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|--------------|------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |              |            | 3                | 4                | 6               | 8               | 10              | 12              |                                    |
| P1  | M/A/D/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,026<br>0.0010  | 0,034<br>0.0013  | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0034 | 0,1<br>0.0040   | 190 (170 — 210)<br>620 (560 — 680) |
| P2  | M/A/D/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,026<br>0.0010  | 0,036<br>0.0014  | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,09<br>0.0036  | 0,1<br>0.0040   | 180 (160 — 200)<br>590 (530 — 650) |
| P3  | M/A/D/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,025<br>0.0010  | 0,034<br>0.0013  | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0034 | 0,1<br>0.0040   | 155 (140 — 170)<br>510 (460 — 550) |
| P4  | M/A/D/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 140 (130 — 150)<br>460 (430 — 490) |
| P5  | M/A/D/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 135 (120 — 150)<br>445 (400 — 490) |
| P6  | M/A/D/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 150 (130 — 160)<br>490 (430 — 520) |
| P7  | M/A/D/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 140 (130 — 160)<br>460 (430 — 520) |
| P8  | M/A/D/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,025<br>0.0010  | 0,034<br>0.0013  | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0034 | 0,1<br>0.0040   | 130 (120 — 140)<br>425 (400 — 450) |
| P11 | M/A/D/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 95 (76 — 110)<br>310 (250 — 360)   |
| P12 | M/A/D/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,016<br>0.00065 | 0,022<br>0.00085 | 0,032<br>0.0013 | 0,044<br>0.0017 | 0,055<br>0.0022 | 0,065<br>0.0026 | 60 (47 — 69)<br>195 (160 — 220)    |
| M1  | E/M/A                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,026<br>0.0010  | 0,036<br>0.0014  | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,09<br>0.0036  | 0,1<br>0.0040   | 110 (87 — 120)<br>360 (290 — 390)  |
| M2  | E/M/A                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 90 (72 — 100)<br>295 (240 — 320)   |
| M3  | E/M/A                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 60 (41 — 75)<br>195 (140 — 240)    |
| M4  | E/M/A                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,022<br>0.00085 | 0,028<br>0.0011  | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,08<br>0.0032  | 44 (31 — 57)<br>145 (110 — 180)    |
| M5  | E/M/A                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,022<br>0.00085 | 0,028<br>0.0011  | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,08<br>0.0032  | 37 (26 — 48)<br>120 (86 — 150)     |
| K1  | A/D/M/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,026<br>0.0010  | 0,036<br>0.0014  | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,09<br>0.0036  | 0,1<br>0.0040   | 185 (160 — 200)<br>610 (530 — 650) |
| K2  | A/D/M/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 160 (140 — 180)<br>520 (460 — 590) |
| K3  | A/D/M/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 135 (120 — 150)<br>445 (400 — 490) |
| K4  | A/D/M/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 130 (120 — 140)<br>425 (400 — 450) |
| K5  | A/D/M/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,022<br>0.00085 | 0,028<br>0.0011  | 0,044<br>0.0017 | 0,06<br>0.0024  | 0,07<br>0.0028  | 0,085<br>0.0034 | 80 (69 — 89)<br>260 (230 — 290)    |
| K6  | A/D/M/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 115 (100 — 130)<br>375 (330 — 420) |
| K7  | A/D/M/E                                                                           | 0,02<br>0.02 | 0,3<br>0.3 | 0,022<br>0.00085 | 0,028<br>0.0011  | 0,044<br>0.0017 | 0,06<br>0.0024  | 0,07<br>0.0028  | 0,085<br>0.0034 | 100 (88 — 110)<br>330 (290 — 360)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – JS506 Chamfering

| SMG |  | $a_e/DCX$    | $a_p/DCX$  | $f_z$             |                  |                  |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|--------------|------------|-------------------|------------------|------------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |              |            | 3                 | 4                | 6                | 8               | 10              | 12              |                                       |
| N1  | E/M/A                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095  | 0,032<br>0.0013  | 0,048<br>0.0019  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 445 (410 — 480)<br>1450 (1400 — 1500) |
| N2  | E/M/A                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095  | 0,032<br>0.0013  | 0,048<br>0.0019  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 285 (260 — 310)<br>940 (860 — 1000)   |
| N3  | E/M/A                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095  | 0,032<br>0.0013  | 0,048<br>0.0019  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 190 (180 — 200)<br>620 (600 — 650)    |
| N11 | E/M/A                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095  | 0,032<br>0.0013  | 0,048<br>0.0019  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 255 (230 — 270)<br>840 (760 — 880)    |
| S1  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,013<br>0.00050  | 0,017<br>0.00065 | 0,026<br>0.0010  | 0,034<br>0.0013 | 0,044<br>0.0017 | 0,05<br>0.0020  | 42 (14 — 69)<br>140 (46 — 220)        |
| S2  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,013<br>0.00050  | 0,017<br>0.00065 | 0,026<br>0.0010  | 0,034<br>0.0013 | 0,044<br>0.0017 | 0,05<br>0.0020  | 34 (12 — 56)<br>110 (40 — 180)        |
| S3  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,012<br>0.00048  | 0,016<br>0.00065 | 0,024<br>0.00095 | 0,032<br>0.0013 | 0,04<br>0.0016  | 0,048<br>0.0019 | 29 (9,8 — 48)<br>95 (33 — 150)        |
| S11 | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095  | 0,032<br>0.0013  | 0,048<br>0.0019  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 85 (64 — 100)<br>280 (210 — 320)      |
| S12 | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095  | 0,032<br>0.0013  | 0,048<br>0.0019  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 65 (49 — 84)<br>215 (170 — 270)       |
| S13 | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,022<br>0.00085  | 0,028<br>0.0011  | 0,042<br>0.0017  | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,08<br>0.0032  | 55 (39 — 66)<br>180 (130 — 210)       |
| H5  | M/A/D                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,012<br>0.00048  | 0,016<br>0.00065 | 0,024<br>0.00095 | 0,032<br>0.0013 | 0,04<br>0.0016  | 0,048<br>0.0019 | 65 (47 — 87)<br>215 (160 — 280)       |
| H8  | M/A/D                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,0095<br>0.00038 | 0,012<br>0.00048 | 0,019<br>0.00075 | 0,025<br>0.0010 | 0,03<br>0.0012  | 0,036<br>0.0014 | 70 (47 — 88)<br>230 (160 — 280)       |
| H11 | M/A/D                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,012<br>0.00048  | 0,016<br>0.00065 | 0,024<br>0.00095 | 0,032<br>0.0013 | 0,04<br>0.0016  | 0,048<br>0.0019 | 85 (60 — 110)<br>280 (200 — 360)      |
| H12 | M/A/D                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,0095<br>0.00038 | 0,012<br>0.00048 | 0,019<br>0.00075 | 0,025<br>0.0010 | 0,03<br>0.0012  | 0,036<br>0.0014 | 80 (55 — 100)<br>260 (190 — 320)      |
| H21 | M/A/D                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,0095<br>0.00038 | 0,012<br>0.00048 | 0,019<br>0.00075 | 0,025<br>0.0010 | 0,03<br>0.0012  | 0,036<br>0.0014 | 70 (47 — 88)<br>230 (160 — 280)       |
| TS1 | A/D                                                                               | 0,02<br>0.02 | 0,3<br>0.3 | 0,03<br>0.0012    | 0,04<br>0.0016   | 0,06<br>0.0024   | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,12<br>0.0048  | 550 (500 — 600)<br>1800 (1700 — 1900) |
| TP1 | A/D                                                                               | 0,02<br>0.02 | 0,3<br>0.3 | 0,03<br>0.0012    | 0,04<br>0.0016   | 0,06<br>0.0024   | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,12<br>0.0048  | 550 (500 — 600)<br>1800 (1700 — 1900) |
| GR1 | A/D                                                                               | 0,02<br>0.02 | 0,3<br>0.3 | 0,03<br>0.0012    | 0,04<br>0.0016   | 0,06<br>0.0024   | 0,08<br>0.0032  | 0,1<br>0.0040   | 0,12<br>0.0048  | 550 (500 — 600)<br>1800 (1700 — 1900) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

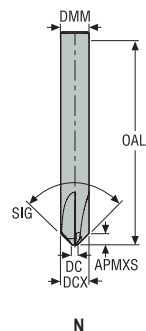
Graphite

X-Heads

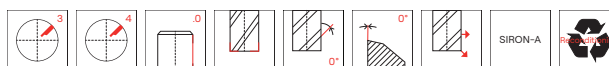
Minimaster

## JS509

General purpose – Universal – Chamfer – 3-4 Flutes – Cylindrical



—Tolerances:  
—DMM=h5  
—SIG=  $\pm 0,5^\circ$   
—Regrind possible if DMM is  $\geq \varnothing 6$



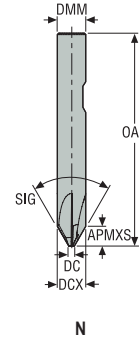
| Designation          | Item number | Length index | Tool shape | DCX  | DC  | DMM  | APMXS | OAL  | PSIR° | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|------|-----|------|-------|------|-------|-------|-------------|----------------|
| JS509030N2CZ3.0-SIRA | 02881634    | 2            | N          | mm   | mm  | mm   | mm    | mm   |       |       |             |                |
|                      |             |              |            | 3,0  | 0,6 | 3,0  | 1,2   | 50,0 | 45,0  | 3     | Cylindrical | ■              |
| JS509040N2CZ3.0-SIRA | 02881635    | 2            | N          |      |     |      |       |      |       |       |             |                |
|                      |             |              |            | 4,0  | 0,8 | 4,0  | 1,6   | 50,0 | 45,0  | 3     | Cylindrical | ■              |
| JS509060N2CZ4.0-SIRA | 02881636    | 2            | N          |      |     |      |       |      |       |       |             |                |
|                      |             |              |            | 6,0  | 1,2 | 6,0  | 2,4   | 57,0 | 45,0  | 4     | Cylindrical | ■              |
| JS509080N2CZ4.0-SIRA | 02881638    | 2            | N          |      |     |      |       |      |       |       |             |                |
|                      |             |              |            | 8,0  | 1,6 | 8,0  | 3,2   | 63,0 | 45,0  | 4     | Cylindrical | ■              |
| JS509100N2CZ4.0-SIRA | 02881640    | 2            | N          |      |     |      |       |      |       |       |             |                |
|                      |             |              |            | 10,0 | 2,0 | 10,0 | 4,0   | 72,0 | 45,0  | 4     | Cylindrical | ■              |
| JS509120N2CZ4.0-SIRA | 02881642    | 2            | N          |      |     |      |       |      |       |       |             |                |
|                      |             |              |            | 12,0 | 2,4 | 12,0 | 4,8   | 83,0 | 45,0  | 4     | Cylindrical | ■              |

■ Stocked standard.

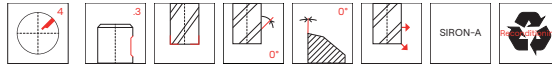


## JS509

General purpose – Universal – Chamfer – 3-4 Flutes – Weldon



- Tolerances:
- DMM=h5
- SIG=  $\pm 0,5^\circ$
- Regrind possible



| Designation          | Item number | Length index | Tool shape | DCX  | DC  | DMM  | APMXS | OAL  | PSIR° | PCEDC | Shank  | Stock standard |
|----------------------|-------------|--------------|------------|------|-----|------|-------|------|-------|-------|--------|----------------|
| JS509060N2CZ4.3-SIRA | 02881637    | 2            | N          | mm   | mm  | mm   | mm    | mm   | 45,0  | 4     | Weldon | ■              |
| JS509080N2CZ4.3-SIRA | 02881639    | 2            | N          | 6,0  | 1,2 | 6,0  | 2,4   | 57,0 | 45,0  | 4     | Weldon | ■              |
| JS509100N2CZ4.3-SIRA | 02881641    | 2            | N          | 8,0  | 1,6 | 8,0  | 3,2   | 63,0 | 45,0  | 4     | Weldon | ■              |
| JS509120N2CZ4.3-SIRA | 02881643    | 2            | N          | 10,0 | 2,0 | 10,0 | 4,0   | 72,0 | 45,0  | 4     | Weldon | ■              |
|                      |             |              |            | 12,0 | 2,4 | 12,0 | 4,8   | 83,0 | 45,0  | 4     | Weldon | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JS509 Chamfering

| SMG |         | $a_e/DCX$    | $a_p/DCX$  | $f_z$            |                  |                 |                 |                 |                 | $v_c$                              |
|-----|---------|--------------|------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |         |              |            | 3                | 4                | 6               | 8               | 10              | 12              |                                    |
| P1  | M/A/D/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,026<br>0.0010  | 0,034<br>0.0013  | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0034 | 0,1<br>0.0040   | 200 (180 — 220)<br>660 (600 — 720) |
| P2  | M/A/D/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,026<br>0.0010  | 0,036<br>0.0014  | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,09<br>0.0036  | 0,1<br>0.0040   | 190 (170 — 210)<br>620 (560 — 680) |
| P3  | M/A/D/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,025<br>0.0010  | 0,034<br>0.0013  | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0034 | 0,1<br>0.0040   | 165 (150 — 180)<br>540 (500 — 590) |
| P4  | M/A/D/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,025<br>0.0010  | 0,032<br>0.0013  | 0,05<br>0.0020  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 145 (130 — 160)<br>475 (430 — 520) |
| P5  | M/A/D/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 140 (130 — 150)<br>460 (430 — 490) |
| P6  | M/A/D/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 160 (140 — 170)<br>520 (460 — 550) |
| P7  | M/A/D/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 150 (130 — 160)<br>490 (430 — 520) |
| P8  | M/A/D/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,025<br>0.0010  | 0,034<br>0.0013  | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0034 | 0,1<br>0.0040   | 140 (130 — 150)<br>460 (430 — 490) |
| P11 | M/A/D/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 100 (79 — 110)<br>330 (260 — 360)  |
| P12 | M/A/D/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,016<br>0.00065 | 0,022<br>0.00085 | 0,032<br>0.0013 | 0,044<br>0.0017 | 0,055<br>0.0022 | 0,065<br>0.0026 | 60 (49 — 72)<br>195 (170 — 230)    |
| M1  | E/M/A   | 0,02<br>0.02 | 0,3<br>0.3 | 0,026<br>0.0010  | 0,036<br>0.0014  | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,09<br>0.0036  | 0,1<br>0.0040   | 115 (92 — 130)<br>375 (310 — 420)  |
| M2  | E/M/A   | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 95 (75 — 110)<br>310 (250 — 360)   |
| M3  | E/M/A   | 0,02<br>0.02 | 0,3<br>0.3 | 0,026<br>0.0010  | 0,034<br>0.0013  | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0034 | 0,1<br>0.0040   | 60 (43 — 79)<br>195 (150 — 250)    |
| M4  | E/M/A   | 0,02<br>0.02 | 0,3<br>0.3 | 0,022<br>0.00085 | 0,03<br>0.0012   | 0,044<br>0.0017 | 0,06<br>0.0024  | 0,075<br>0.0030 | 0,09<br>0.0036  | 46 (32 — 60)<br>150 (110 — 190)    |
| M5  | E/M/A   | 0,02<br>0.02 | 0,3<br>0.3 | 0,022<br>0.00085 | 0,03<br>0.0012   | 0,044<br>0.0017 | 0,06<br>0.0024  | 0,075<br>0.0030 | 0,09<br>0.0036  | 39 (27 — 50)<br>130 (89 — 160)     |
| K1  | A/D/M/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,026<br>0.0010  | 0,036<br>0.0014  | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,09<br>0.0036  | 0,1<br>0.0040   | 195 (170 — 210)<br>640 (560 — 680) |
| K2  | A/D/M/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 170 (150 — 190)<br>560 (500 — 620) |
| K3  | A/D/M/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 145 (130 — 160)<br>475 (430 — 520) |
| K4  | A/D/M/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 135 (120 — 150)<br>445 (400 — 490) |
| K5  | A/D/M/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,022<br>0.00085 | 0,028<br>0.0011  | 0,044<br>0.0017 | 0,06<br>0.0024  | 0,07<br>0.0028  | 0,085<br>0.0034 | 85 (72 — 93)<br>280 (240 — 300)    |
| K6  | A/D/M/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095 | 0,032<br>0.0013  | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 120 (110 — 130)<br>395 (370 — 420) |
| K7  | A/D/M/E | 0,02<br>0.02 | 0,3<br>0.3 | 0,022<br>0.00085 | 0,028<br>0.0011  | 0,044<br>0.0017 | 0,06<br>0.0024  | 0,07<br>0.0028  | 0,085<br>0.0034 | 105 (92 — 120)<br>345 (310 — 390)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – JS509 Chamfering

| SMG |  | $a_e/DCX$    | $a_p/DCX$  | $f_z$             |                  |                  |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|--------------|------------|-------------------|------------------|------------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |              |            | 3                 | 4                | 6                | 8               | 10              | 12              |                                       |
| N1  | E/M/A                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,026<br>0.0010   | 0,034<br>0.0013  | 0,05<br>0.0020   | 0,07<br>0.0028  | 0,085<br>0.0034 | 0,1<br>0.0040   | 470 (430 — 510)<br>1550 (1500 — 1600) |
| N2  | E/M/A                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,026<br>0.0010   | 0,034<br>0.0013  | 0,05<br>0.0020   | 0,07<br>0.0028  | 0,085<br>0.0034 | 0,1<br>0.0040   | 300 (280 — 330)<br>980 (920 — 1000)   |
| N3  | E/M/A                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,026<br>0.0010   | 0,034<br>0.0013  | 0,05<br>0.0020   | 0,07<br>0.0028  | 0,085<br>0.0034 | 0,1<br>0.0040   | 200 (190 — 220)<br>660 (630 — 720)    |
| N11 | E/M/A                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,026<br>0.0010   | 0,034<br>0.0013  | 0,05<br>0.0020   | 0,07<br>0.0028  | 0,085<br>0.0034 | 0,1<br>0.0040   | 265 (250 — 290)<br>870 (830 — 950)    |
| S1  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,013<br>0.00050  | 0,017<br>0.00065 | 0,026<br>0.0010  | 0,036<br>0.0014 | 0,044<br>0.0017 | 0,05<br>0.0020  | 45 (15 — 74)<br>150 (50 — 240)        |
| S2  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,013<br>0.00050  | 0,017<br>0.00065 | 0,026<br>0.0010  | 0,036<br>0.0014 | 0,044<br>0.0017 | 0,05<br>0.0020  | 36 (12 — 59)<br>120 (40 — 190)        |
| S3  | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,012<br>0.00048  | 0,016<br>0.00065 | 0,024<br>0.00095 | 0,032<br>0.0013 | 0,04<br>0.0016  | 0,048<br>0.0019 | 31 (11 — 51)<br>100 (37 — 160)        |
| S11 | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095  | 0,032<br>0.0013  | 0,048<br>0.0019  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 90 (67 — 110)<br>295 (220 — 360)      |
| S12 | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095  | 0,032<br>0.0013  | 0,048<br>0.0019  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 70 (52 — 88)<br>230 (180 — 280)       |
| S13 | E                                                                                 | 0,02<br>0.02 | 0,3<br>0.3 | 0,022<br>0.00085  | 0,028<br>0.0011  | 0,042<br>0.0017  | 0,055<br>0.0022 | 0,07<br>0.0028  | 0,085<br>0.0034 | 55 (41 — 69)<br>180 (140 — 220)       |
| H5  | M/A/D                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,012<br>0.00048  | 0,016<br>0.00065 | 0,025<br>0.0010  | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,048<br>0.0019 | 70 (49 — 92)<br>230 (170 — 300)       |
| H8  | M/A/D                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,0095<br>0.00038 | 0,012<br>0.00048 | 0,019<br>0.00075 | 0,025<br>0.0010 | 0,032<br>0.0013 | 0,036<br>0.0014 | 70 (49 — 92)<br>230 (170 — 300)       |
| H11 | M/A/D                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,012<br>0.00048  | 0,016<br>0.00065 | 0,025<br>0.0010  | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,048<br>0.0019 | 90 (63 — 110)<br>295 (210 — 360)      |
| H12 | M/A/D                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,0095<br>0.00038 | 0,012<br>0.00048 | 0,019<br>0.00075 | 0,025<br>0.0010 | 0,032<br>0.0013 | 0,036<br>0.0014 | 80 (57 — 100)<br>260 (190 — 320)      |
| H21 | M/A/D                                                                             | 0,02<br>0.02 | 0,3<br>0.3 | 0,0095<br>0.00038 | 0,012<br>0.00048 | 0,019<br>0.00075 | 0,025<br>0.0010 | 0,032<br>0.0013 | 0,036<br>0.0014 | 70 (49 — 92)<br>230 (170 — 300)       |
| TS1 | A/D                                                                               | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095  | 0,032<br>0.0013  | 0,048<br>0.0019  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 470 (430 — 510)<br>1550 (1500 — 1600) |
| TP1 | A/D                                                                               | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095  | 0,032<br>0.0013  | 0,048<br>0.0019  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 470 (430 — 510)<br>1550 (1500 — 1600) |
| GR1 | A/D                                                                               | 0,02<br>0.02 | 0,3<br>0.3 | 0,024<br>0.00095  | 0,032<br>0.0013  | 0,048<br>0.0019  | 0,065<br>0.0026 | 0,08<br>0.0032  | 0,095<br>0.0038 | 470 (430 — 510)<br>1550 (1500 — 1600) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

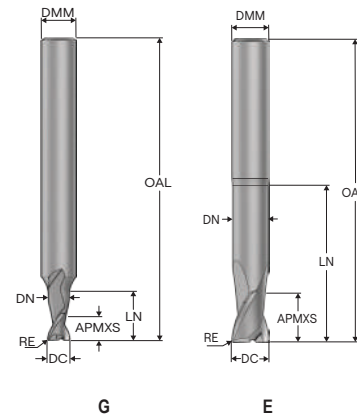
Graphite

X-Heads

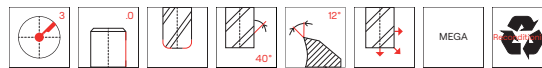
Minimaster

## JH910

High speed – Universal – Square – 3 Flutes – Cylindrical – Corner radius



—Tolerances:  
—DMM= h5  
—DC= -0,02/-0,03 mm  
—RE= ±0,01 mm  
—Regrind possible if DC is ≥Ø6

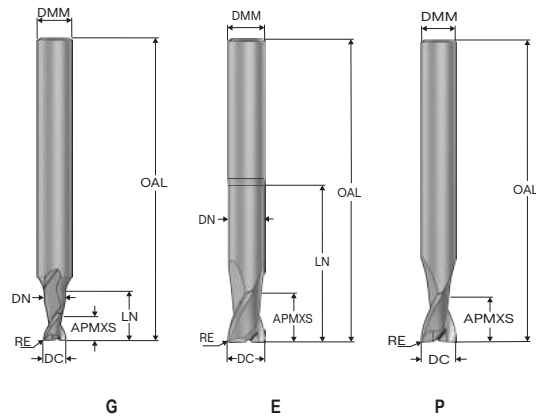


| Designation     | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | LN   | DN   | RE  | CA° | PCEDC | Shank       | Stock standard |
|-----------------|-------------|--------------|------------|------|------|-------|------|------|------|-----|-----|-------|-------------|----------------|
|                 |             |              |            | mm   | mm   | mm    | mm   | mm   | mm   | mm  |     |       |             |                |
| 910020R020-MEGA | 00020058    | 2            | G          | 2,0  | 3,0  | 3,0   | 40,0 | 6,0  | 1,9  | 0,2 | 3,5 | 3     | Cylindrical | ■              |
| 910025R020-MEGA | 00020065    | 2            | G          | 2,5  | 3,0  | 4,0   | 40,0 | 6,0  | 2,4  | 0,2 | 2,0 | 3     | Cylindrical | ■              |
| 910030R010-MEGA | 00020073    | 2            | E          | 3,0  | 3,0  | 4,0   | 40,0 | 7,0  | 2,8  | 0,1 | —   | 3     | Cylindrical | ■              |
| 910030R020-MEGA | 00020142    | 2            | E          | 3,0  | 3,0  | 4,0   | 40,0 | 7,0  | 2,8  | 0,2 | —   | 3     | Cylindrical | ■              |
| 910035R020-MEGA | 00020144    | 2            | G          | 3,5  | 6,0  | 5,0   | 50,0 | 9,0  | 3,2  | 0,2 | 6,0 | 3     | Cylindrical | ■              |
| 910040R020-MEGA | 00020151    | 2            | G          | 4,0  | 6,0  | 5,0   | 50,0 | 9,0  | 3,7  | 0,2 | 5,0 | 3     | Cylindrical | ■              |
| 910040R030-MEGA | 00020152    | 2            | G          | 4,0  | 6,0  | 5,0   | 50,0 | 9,0  | 3,7  | 0,3 | 5,0 | 3     | Cylindrical | ■              |
| 910040R050-MEGA | 00020155    | 2            | G          | 4,0  | 6,0  | 5,0   | 50,0 | 9,0  | 3,7  | 0,5 | 5,0 | 3     | Cylindrical | ■              |
| 910050R020-MEGA | 00020159    | 2            | G          | 5,0  | 6,0  | 6,0   | 50,0 | 11,0 | 4,6  | 0,2 | 2,5 | 3     | Cylindrical | ■              |
| 910060R020-MEGA | 00020160    | 2            | E          | 6,0  | 6,0  | 7,0   | 60,0 | 14,0 | 5,6  | 0,2 | —   | 3     | Cylindrical | ■              |
| 910060R030-MEGA | 00020161    | 2            | E          | 6,0  | 6,0  | 7,0   | 60,0 | 14,0 | 5,6  | 0,3 | —   | 3     | Cylindrical | ■              |
| 910060R050-MEGA | 00020162    | 2            | E          | 6,0  | 6,0  | 7,0   | 60,0 | 14,0 | 5,6  | 0,5 | —   | 3     | Cylindrical | ■              |
| 910080R020-MEGA | 00020163    | 2            | E          | 8,0  | 8,0  | 9,0   | 60,0 | 18,0 | 7,4  | 0,2 | —   | 3     | Cylindrical | ■              |
| 910080R050-MEGA | 00020164    | 2            | E          | 8,0  | 8,0  | 9,0   | 60,0 | 18,0 | 7,4  | 0,5 | —   | 3     | Cylindrical | ■              |
| 910100R020-MEGA | 00020165    | 2            | E          | 10,0 | 10,0 | 12,0  | 70,0 | 25,0 | 9,4  | 0,2 | —   | 3     | Cylindrical | ■              |
| 910100R050-MEGA | 00020166    | 2            | E          | 10,0 | 10,0 | 12,0  | 70,0 | 25,0 | 9,4  | 0,5 | —   | 3     | Cylindrical | ■              |
| 910100R100-MEGA | 00020167    | 2            | E          | 10,0 | 10,0 | 12,0  | 70,0 | 25,0 | 9,4  | 1,0 | —   | 3     | Cylindrical | ■              |
| 910120R050-MEGA | 00020168    | 2            | E          | 12,0 | 12,0 | 15,0  | 80,0 | 30,0 | 11,4 | 0,5 | —   | 3     | Cylindrical | ■              |
| 910120R100-MEGA | 00020169    | 2            | E          | 12,0 | 12,0 | 15,0  | 80,0 | 30,0 | 11,4 | 1,0 | —   | 3     | Cylindrical | ■              |

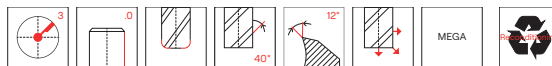
■ Stocked standard.

# JH910

High speed – Universal – Square – 3 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM= h5
- DC= -0,02/-0,03 mm
- RE= ±0,01 mm
- Regrind possible if DC is ≥Ø6



| Designation   | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | CA° | PCEDC | Shank       | Stock standard |
|---------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-----|-------|-------------|----------------|
|               |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm  |     |       |             |                |
| 910L020-MEGA  | 00022002    | 3            | G          | 2,0  | 3,0  | 3,0   | 60,0  | 10,0 | 1,9  | 0,2 | 2,5 | 3     | Cylindrical | ■              |
| 910L030-MEGA  | 00022003    | 3            | E          | 3,0  | 3,0  | 4,0   | 60,0  | 14,0 | 2,8  | 0,2 | —   | 3     | Cylindrical | ■              |
| 910L040-MEGA  | 00022004    | 3            | G          | 4,0  | 6,0  | 5,0   | 65,0  | 18,0 | 3,7  | 0,2 | 3,0 | 3     | Cylindrical | ■              |
| 910L050-MEGA  | 00022005    | 3            | G          | 5,0  | 6,0  | 6,0   | 65,0  | 22,0 | 4,6  | 0,2 | 1,5 | 3     | Cylindrical | ■              |
| 910L060-MEGA  | 00022006    | 3            | E          | 6,0  | 6,0  | 7,0   | 80,0  | 26,0 | 5,6  | 0,3 | —   | 3     | Cylindrical | ■              |
| 910L080-MEGA  | 00022007    | 3            | E          | 8,0  | 8,0  | 9,0   | 85,0  | 36,0 | 7,4  | 0,5 | —   | 3     | Cylindrical | ■              |
| 910L100-MEGA  | 00022009    | 3            | E          | 10,0 | 10,0 | 12,0  | 100,0 | 45,0 | 9,4  | 0,5 | —   | 3     | Cylindrical | ■              |
| 910L120-MEGA  | 00022011    | 3            | E          | 12,0 | 12,0 | 15,0  | 125,0 | 54,0 | 11,4 | 0,5 | —   | 3     | Cylindrical | ■              |
| 910L160-MEGA  | 00022013    | 3            | E          | 16,0 | 16,0 | 18,0  | 125,0 | 65,0 | 15,4 | 1,0 | —   | 3     | Cylindrical | ■              |
| 910RS070-MEGA | 00021772    | 4            | P          | 7,0  | 6,0  | 8,0   | 100,0 | —    | —    | 0,3 | —   | 3     | Cylindrical | ■              |
| 910RS090-MEGA | 00021781    | 4            | P          | 9,0  | 8,0  | 11,0  | 100,0 | —    | —    | 0,5 | —   | 3     | Cylindrical | ■              |
| 910RS110-MEGA | 00021782    | 4            | P          | 11,0 | 10,0 | 13,0  | 125,0 | —    | —    | 0,5 | —   | 3     | Cylindrical | ■              |
| 910RS130-MEGA | 00021784    | 4            | P          | 13,0 | 12,0 | 16,0  | 150,0 | —    | —    | 0,6 | —   | 3     | Cylindrical | ■              |
| 910RS170-MEGA | 00021800    | 4            | P          | 17,0 | 16,0 | 20,0  | 150,0 | —    | —    | 0,6 | —   | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JH910 Side milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>   |                  |                 |                 |                 |                 |                 |                 |                 |                 |                 |                |                |                | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                    |                    | 2                | 3                | 4               | 5               | 6               | 7               | 8               | 9               | 10              | 11              | 12              | 13             | 16             | 17             |                                       |
| P1  | M/E/A                                                                             | 0.0400<br>0,0400   | 1.1<br>1,1         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 455 (410 — 500)<br>1500 (1400 — 1600) |
| P2  | M/E/A                                                                             | 0.0400<br>0,0400   | 1.1<br>1,1         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 445 (400 — 490)<br>1450 (1400 — 1600) |
| P3  | M/E/A                                                                             | 0.0400<br>0,0400   | 1.1<br>1,1         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 385 (350 — 420)<br>1275 (1200 — 1300) |
| P4  | M/E/A                                                                             | 0.0400<br>0,0400   | 1.1<br>1,1         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 335 (300 — 370)<br>1100 (990 — 1200)  |
| P5  | M/E/A                                                                             | 0.0400<br>0,0400   | 1.1<br>1,1         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 320 (290 — 350)<br>1050 (960 — 1100)  |
| P6  | M/E/A                                                                             | 0.0400<br>0,0400   | 1.1<br>1,1         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 360 (330 — 400)<br>1175 (1100 — 1300) |
| P7  | M/E/A                                                                             | 0.0400<br>0,0400   | 1.1<br>1,1         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 340 (310 — 370)<br>1125 (1100 — 1200) |
| P8  | M/E/A                                                                             | 0.0400<br>0,0400   | 1.1<br>1,1         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 1050 (960 — 1100)                     |
| P11 | M/E/A                                                                             | 0.0400<br>0,0400   | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 330 (300 — 360)<br>1075 (990 — 1100)  |
| P12 | M/E/A                                                                             | 0.0400<br>0,0400   | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 195 (180 — 210)<br>640 (600 — 680)    |
| M1  | M/E/A                                                                             | 0.0400<br>0,0400   | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 200 (180 — 220)<br>660 (600 — 720)    |
| M2  | M/E/A                                                                             | 0.0400<br>0,0400   | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 160 (150 — 170)<br>520 (500 — 550)    |
| M3  | M/E/A                                                                             | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 110 (91 — 120)<br>360 (300 — 390)     |
| M4  | M/E/A                                                                             | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 80 (68 — 94)<br>260 (230 — 300)       |
| M5  | M/E/A                                                                             | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 70 (57 — 78)<br>230 (190 — 250)       |
| K1  | A/E                                                                               | 0.0400<br>0,0400   | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 315 (270 — 350)<br>1025 (890 — 1100)  |
| K2  | A/E                                                                               | 0.0400<br>0,0400   | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 270 (240 — 310)<br>890 (790 — 1000)   |
| K3  | A/E                                                                               | 0.0400<br>0,0400   | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 230 (200 — 260)<br>750 (660 — 850)    |
| K4  | A/E                                                                               | 0.0400<br>0,0400   | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 220 (190 — 250)<br>720 (630 — 820)    |
| K5  | A/E                                                                               | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 280 (240 — 320)<br>920 (790 — 1000)   |
| K6  | A/E                                                                               | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 415 (350 — 480)<br>1350 (1200 — 1500) |
| K7  | A/E                                                                               | 0.0300<br>0,0300   | 0.80<br>0,80       | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 355 (300 — 410)<br>1175 (990 — 1300)  |
| S1  | E/M/A                                                                             | 0.0300<br>0,0300   | 0.70<br>0,70       | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 115 (93 — 130)<br>375 (310 — 420)     |
| S2  | E/M/A                                                                             | 0.0300<br>0,0300   | 0.70<br>0,70       | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 95 (75 — 110)<br>310 (250 — 360)      |
| S3  | E/M/A                                                                             | 0.0200<br>0,0200   | 0.50<br>0,50       | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.095<br>0,0038 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.14<br>0,0055 | 50 (40 — 59)<br>165 (140 — 190)       |
| S11 | E/M/A                                                                             | 0.0400<br>0,0400   | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 175 (160 — 190)<br>570 (530 — 620)    |
| S12 | E/M/A                                                                             | 0.0400<br>0,0400   | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 135 (120 — 150)<br>445 (400 — 490)    |
| S13 | E/M/A                                                                             | 0.0400<br>0,0400   | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.17<br>0,0065 | 105 (90 — 110)<br>345 (300 — 360)     |
| TP1 | A                                                                                 | 0.150<br>0,150     | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.15<br>0,0060 | 205 (180 — 240)<br>670 (600 — 780)    |
| GR1 | A                                                                                 | 0.500<br>0,500     | 1.0<br>1,0         | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.14<br>0,0055  | 0.15<br>0,0060 | 0.18<br>0,0070 | 0.18<br>0,0070 | 610 (510 — 710)<br>2000 (1700 — 2300) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
v<sub>c</sub> = m/min (sf/min)  
f<sub>z</sub> = mm (in/tooth)  
a<sub>p</sub> = mm/DC (in/DC) = factor  
a<sub>e</sub> = mm/DC (in/DC) = factor  
All cutting data are target values

### Cutting data – JH910 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>   |                  |                  |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 | v <sub>c</sub>                        |                                         |
|-----|-----------------------------------------------------------------------------------|--------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|-----------------------------------------|
|     |                                                                                   |                    | 2                | 3                | 4                | 5               | 6               | 7               | 8               | 9               | 10              | 11              | 12              | 13              | 16              | 17              |                                       |                                         |
| P1  | M/E/A                                                                             | 0.30<br>0,30       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 255 (230 — 280)<br>840 (760 — 910)    | Universal<br><br>Steel and cast<br>iron |
| P2  | M/E/A                                                                             | 0.30<br>0,30       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 250 (230 — 270)<br>820 (760 — 880)    |                                         |
| P3  | M/E/A                                                                             | 0.30<br>0,30       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 215 (200 — 230)<br>710 (660 — 750)    |                                         |
| P4  | M/E/A                                                                             | 0.30<br>0,30       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 190 (170 — 200)<br>620 (560 — 650)    |                                         |
| P5  | M/E/A                                                                             | 0.30<br>0,30       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 180 (170 — 190)<br>590 (560 — 620)    |                                         |
| P6  | M/E/A                                                                             | 0.30<br>0,30       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 200 (180 — 220)<br>660 (600 — 720)    |                                         |
| P7  | M/E/A                                                                             | 0.30<br>0,30       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 190 (170 — 210)<br>620 (560 — 680)    |                                         |
| P8  | M/E/A                                                                             | 0.30<br>0,30       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 180 (170 — 190)<br>590 (560 — 620)    |                                         |
| P11 | M/E/A                                                                             | 0.10<br>0,10       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 195 (180 — 210)<br>640 (600 — 680)    |                                         |
| P12 | M/E/A                                                                             | 0.10<br>0,10       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 115 (110 — 120)<br>375 (370 — 390)    |                                         |
| M1  | M/E/A                                                                             | 0.10<br>0,10       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 120 (110 — 130)<br>395 (370 — 420)    | Non ferrous                             |
| M2  | M/E/A                                                                             | 0.10<br>0,10       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 95 (86 — 100)<br>310 (290 — 320)      |                                         |
| M3  | M/E/A                                                                             | 0.10<br>0,10       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 60 (51 — 70)<br>195 (170 — 220)       |                                         |
| M4  | M/E/A                                                                             | 0.10<br>0,10       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 45 (38 — 52)<br>150 (130 — 170)       |                                         |
| M5  | M/E/A                                                                             | 0.10<br>0,10       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 38 (32 — 43)<br>125 (110 — 140)       |                                         |
| K1  | A/E                                                                               | 0.30<br>0,30       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 175 (160 — 200)<br>570 (530 — 650)    | Hard                                    |
| K2  | A/E                                                                               | 0.30<br>0,30       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 150 (140 — 170)<br>490 (460 — 550)    |                                         |
| K3  | A/E                                                                               | 0.30<br>0,30       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 130 (120 — 140)<br>425 (400 — 450)    |                                         |
| K4  | A/E                                                                               | 0.30<br>0,30       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 125 (110 — 140)<br>410 (370 — 450)    |                                         |
| K5  | A/E                                                                               | 0.16<br>0,16       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 150 (130 — 170)<br>490 (430 — 550)    |                                         |
| K6  | A/E                                                                               | 0.16<br>0,16       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 220 (190 — 250)<br>720 (630 — 820)    |                                         |
| K7  | A/E                                                                               | 0.16<br>0,16       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 190 (170 — 220)<br>620 (560 — 720)    |                                         |
| S1  | E/M/A                                                                             | 0.15<br>0,15       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 60 (50 — 74)<br>195 (170 — 240)       | Graphite                                |
| S2  | E/M/A                                                                             | 0.15<br>0,15       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 50 (41 — 60)<br>165 (140 — 190)       |                                         |
| S3  | E/M/A                                                                             | 0.080<br>0,080     | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 25 (21 — 30)<br>80 (69 — 98)          |                                         |
| S11 | E/M/A                                                                             | 0.24<br>0,24       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 100 (85 — 110)<br>330 (280 — 360)     |                                         |
| S12 | E/M/A                                                                             | 0.24<br>0,24       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 75 (65 — 84)<br>245 (220 — 270)       |                                         |
| S13 | E/M/A                                                                             | 0.24<br>0,24       | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.085<br>0,0034 | 60 (51 — 65)<br>195 (170 — 210)       | X-Heads                                 |
| TP1 | A                                                                                 | 0.24<br>0,24       | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.042<br>0,0017 | 0.048<br>0,0019 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.10<br>0,0040  | 150 (130 — 170)<br>490 (430 — 550)    |                                         |
| GR1 | A                                                                                 | 0.36<br>0,36       | 0.014<br>0,00055 | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.036<br>0,0014 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.070<br>0,0028 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.12<br>0,0048  | 600 (510 — 700)<br>1975 (1700 — 2200) |                                         |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub>= m/min (sf/min)

f<sub>z</sub> = mm/tooth (in/tooth)

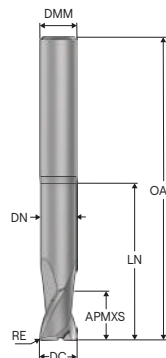
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

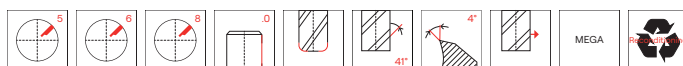
## JH930

High speed – Universal – Square – 5-8 Flutes – Cylindrical – Corner radius



E

—Tolerances:  
—DMM= h5  
—DC= -0,02/-0,04 mm  
—RE= ±0,05 mm  
—Regrind possible



| Designation     | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|-----------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
| 930060R020-MEGA | 00022026    | 2            | E          | 6,0  | 6,0  | 9,0   | 55,0  | 15,0 | 5,6  | 0,2 | 5     | Cylindrical | ■              |
| 930060R050-MEGA | 00022027    | 2            | E          | 6,0  | 6,0  | 9,0   | 55,0  | 15,0 | 5,6  | 0,5 | 5     | Cylindrical | ■              |
| 930080R020-MEGA | 00022028    | 2            | E          | 8,0  | 8,0  | 12,0  | 60,0  | 18,0 | 7,4  | 0,2 | 5     | Cylindrical | ■              |
| 930080R050-MEGA | 00022029    | 2            | E          | 8,0  | 8,0  | 12,0  | 60,0  | 18,0 | 7,4  | 0,5 | 5     | Cylindrical | ■              |
| 930100R030-MEGA | 00022030    | 2            | E          | 10,0 | 10,0 | 15,0  | 70,0  | 25,0 | 9,4  | 0,3 | 6     | Cylindrical | ■              |
| 930100R100-MEGA | 00022031    | 2            | E          | 10,0 | 10,0 | 15,0  | 70,0  | 25,0 | 9,4  | 1,0 | 6     | Cylindrical | ■              |
| 930120R050-MEGA | 00022033    | 2            | E          | 12,0 | 12,0 | 18,0  | 80,0  | 30,0 | 11,4 | 0,5 | 6     | Cylindrical | ■              |
| 930120R100-MEGA | 00022034    | 2            | E          | 12,0 | 12,0 | 18,0  | 80,0  | 30,0 | 11,4 | 1,0 | 6     | Cylindrical | ■              |
| 930160R050-MEGA | 00022035    | 2            | E          | 16,0 | 16,0 | 24,0  | 90,0  | 35,0 | 15,4 | 0,5 | 8     | Cylindrical | ■              |
| 930160R100-MEGA | 00022040    | 2            | E          | 16,0 | 16,0 | 24,0  | 90,0  | 35,0 | 15,4 | 1,0 | 8     | Cylindrical | ■              |
| 930200R050-MEGA | 00022044    | 2            | E          | 20,0 | 20,0 | 30,0  | 100,0 | 38,0 | 19,2 | 0,5 | 8     | Cylindrical | ■              |

■ Stocked standard.



Cutting data – JH930 Side milling

| SMG |  | $a_p$ /DC        | $a_p$ /DC    | $f_z$            |                  |                 |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|------------------|--------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                  |              | 6                | 8                | 10              | 12              | 16              | 20              |                                       |
| P1  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.16<br>0,0065  | 0.18<br>0,0070  | 440 (370 — 490)<br>1450 (1300 — 1600) |
| P2  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.065<br>0,0026  | 0.090<br>0,0036  | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.16<br>0,0065  | 0.19<br>0,0075  | 430 (360 — 480)<br>1400 (1200 — 1500) |
| P3  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.085<br>0,0034  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070  | 375 (320 — 420)<br>1225 (1100 — 1300) |
| P4  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 330 (280 — 370)<br>1075 (920 — 1200)  |
| P5  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 315 (270 — 350)<br>1025 (890 — 1100)  |
| P6  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 355 (300 — 390)<br>1175 (990 — 1200)  |
| P7  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 335 (280 — 370)<br>1100 (920 — 1200)  |
| P8  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.085<br>0,0034  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070  | 315 (270 — 350)<br>1025 (890 — 1100)  |
| P11 | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 325 (280 — 360)<br>1075 (920 — 1100)  |
| P12 | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.040<br>0,0016  | 0.055<br>0,0022  | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.11<br>0,0044  | 200 (170 — 220)<br>660 (560 — 720)    |
| K1  | E/M/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 255 (210 — 300)<br>840 (690 — 980)    |
| K2  | E/M/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.055<br>0,0022  | 0.075<br>0,0030  | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 225 (180 — 260)<br>740 (600 — 850)    |
| K3  | E/M/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.055<br>0,0022  | 0.075<br>0,0030  | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 190 (160 — 220)<br>620 (530 — 720)    |
| K4  | E/M/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.055<br>0,0022  | 0.075<br>0,0030  | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 180 (150 — 210)<br>590 (500 — 680)    |
| K5  | E/M/A                                                                             | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 205 (160 — 250)<br>670 (530 — 820)    |
| K6  | E/M/A                                                                             | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.065<br>0,0026  | 0.090<br>0,0036  | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.16<br>0,0065  | 0.19<br>0,0075  | 300 (230 — 370)<br>980 (760 — 1200)   |
| K7  | E/M/A                                                                             | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 260 (200 — 320)<br>850 (660 — 1000)   |
| S1  | E/M/A                                                                             | 0.0300<br>0,0300 | 0.44<br>0,44 | 0.055<br>0,0022  | 0.070<br>0,0028  | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 80 (62 — 100)<br>260 (210 — 320)      |
| S2  | E/M/A                                                                             | 0.0300<br>0,0300 | 0.44<br>0,44 | 0.055<br>0,0022  | 0.070<br>0,0028  | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 65 (50 — 82)<br>215 (170 — 260)       |
| S3  | E/M/A                                                                             | 0.0200<br>0,0200 | 0.70<br>0,70 | 0.055<br>0,0022  | 0.070<br>0,0028  | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 41 (31 — 50)<br>135 (110 — 160)       |
| S11 | E/M/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 160 (140 — 180)<br>520 (460 — 590)    |
| S12 | E/M/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 120 (110 — 140)<br>395 (370 — 450)    |
| S13 | E/M/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.050<br>0,0020  | 0.070<br>0,0028  | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.15<br>0,0060  | 95 (81 — 110)<br>310 (270 — 360)      |
| H3  | M/A                                                                               | 0.0200<br>0,0200 | 0.50<br>0,50 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 55 (41 — 71)<br>180 (140 — 230)       |
| H5  | M/A                                                                               | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 250 (210 — 300)<br>820 (690 — 980)    |
| H7  | M/A                                                                               | 0.0200<br>0,0200 | 0.50<br>0,50 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 55 (41 — 71)<br>180 (140 — 230)       |
| H8  | M/A                                                                               | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 255 (210 — 300)<br>840 (690 — 980)    |
| H11 | M/A                                                                               | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 320 (260 — 380)<br>1050 (860 — 1200)  |
| H12 | M/A                                                                               | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.030<br>0,0012  | 0.042<br>0,0017  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 270 (220 — 320)<br>890 (730 — 1000)   |
| H21 | M/A                                                                               | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 255 (210 — 300)<br>840 (690 — 980)    |
| H31 | M/A                                                                               | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 155 (130 — 180)<br>510 (430 — 590)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

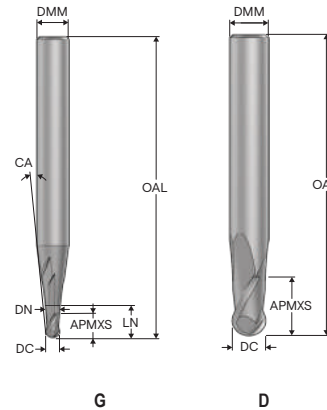
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

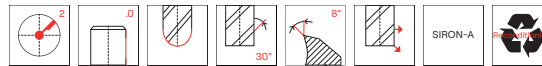
All cutting data are target values

## JHB970

High speed – Universal – Ball nose – 2 Flutes – Cylindrical



—Tolerances:  
—DMM= h5  
—DC= -0,02/-0,04 mm  
—RE= ±0,01 mm  
—Regrind possible if DC is ≥Ø6



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN  | RE   | CA° | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|-----|------|-----|-------|-------------|----------------|
|                  |       |             |              |            | mm   | mm   | mm    | mm    | mm   | mm  | mm   |     |       |             |                |
| JHB970020G1B.0Z2 | SIRA  | 10072058    | 1            | G          | 2,0  | 3,0  | 3,0   | 50,0  | 10,0 | 1,9 | 1,0  | 2,5 | 2     | Cylindrical | ■              |
| JHB970030D1B.0Z2 | SIRA  | 10072059    | 1            | D          | 3,0  | 3,0  | 4,5   | 50,0  | —    | —   | 1,5  | —   | 2     | Cylindrical | ■              |
| JHB970040D1B.0Z2 | SIRA  | 10072060    | 1            | D          | 4,0  | 4,0  | 6,0   | 60,0  | —    | —   | 2,0  | —   | 2     | Cylindrical | ■              |
| JHB970050D1B.0Z2 | SIRA  | 10072061    | 1            | D          | 5,0  | 5,0  | 7,5   | 60,0  | —    | —   | 2,5  | —   | 2     | Cylindrical | ■              |
| JHB970060D1B.0Z2 | SIRA  | 10072062    | 1            | D          | 6,0  | 6,0  | 9,0   | 75,0  | —    | —   | 3,0  | —   | 2     | Cylindrical | ■              |
| JHB970020G2B.0Z2 | SIRA  | 10072063    | 2            | G          | 2,0  | 6,0  | 3,0   | 60,0  | 4,0  | 1,9 | 1,0  | 8,0 | 2     | Cylindrical | ■              |
| JHB970025G2B.0Z2 | SIRA  | 10072064    | 2            | G          | 2,5  | 6,0  | 4,0   | 60,0  | 5,0  | 2,4 | 1,25 | 7,5 | 2     | Cylindrical | ■              |
| JHB970030G2B.0Z2 | SIRA  | 10072065    | 2            | G          | 3,0  | 6,0  | 4,5   | 60,0  | 6,0  | 2,8 | 1,5  | 5,5 | 2     | Cylindrical | ■              |
| JHB970035G2B.0Z2 | SIRA  | 10072066    | 2            | G          | 3,5  | 6,0  | 5,0   | 60,0  | 7,0  | 3,2 | 1,75 | 4,5 | 2     | Cylindrical | ■              |
| JHB970040G2B.0Z2 | SIRA  | 10072067    | 2            | G          | 4,0  | 6,0  | 6,0   | 60,0  | 8,0  | 3,7 | 2,0  | 3,0 | 2     | Cylindrical | ■              |
| JHB970050G2B.0Z2 | SIRA  | 10072068    | 2            | G          | 5,0  | 6,0  | 7,5   | 60,0  | 10,0 | 4,6 | 2,5  | 2,0 | 2     | Cylindrical | ■              |
| JHB970060G2B.0Z2 | SIRA  | 10072069    | 2            | G          | 6,0  | 8,0  | 9,0   | 75,0  | 12,0 | 5,6 | 3,0  | 2,5 | 2     | Cylindrical | ■              |
| JHB970080D2B.0Z2 | SIRA  | 10072070    | 2            | D          | 8,0  | 8,0  | 12,0  | 75,0  | —    | —   | 4,0  | —   | 2     | Cylindrical | ■              |
| JHB970100D2B.0Z2 | SIRA  | 10072071    | 2            | D          | 10,0 | 10,0 | 15,0  | 80,0  | —    | —   | 5,0  | —   | 2     | Cylindrical | ■              |
| JHB970120D2B.0Z2 | SIRA  | 10072072    | 2            | D          | 12,0 | 12,0 | 18,0  | 90,0  | —    | —   | 6,0  | —   | 2     | Cylindrical | ■              |
| JHB970160D2B.0Z2 | SIRA  | 10072073    | 2            | D          | 16,0 | 16,0 | 24,0  | 100,0 | —    | —   | 8,0  | —   | 2     | Cylindrical | ■              |
| JHB970020G3B.0Z2 | SIRA  | 10072074    | 3            | G          | 2,0  | 6,0  | 3,0   | 80,0  | 4,0  | 1,9 | 1,0  | 8,0 | 2     | Cylindrical | ■              |
| JHB970030G3B.0Z2 | SIRA  | 10072075    | 3            | G          | 3,0  | 6,0  | 4,5   | 80,0  | 6,0  | 2,8 | 1,5  | 5,5 | 2     | Cylindrical | ■              |
| JHB970040G3B.0Z2 | SIRA  | 10072076    | 3            | G          | 4,0  | 6,0  | 6,0   | 80,0  | 8,0  | 3,7 | 2,0  | 3,0 | 2     | Cylindrical | ■              |
| JHB970060G3B.0Z2 | SIRA  | 10072077    | 3            | G          | 6,0  | 8,0  | 9,0   | 100,0 | 12,0 | 5,6 | 3,0  | 2,5 | 2     | Cylindrical | ■              |
| JHB970080D3B.0Z2 | SIRA  | 10072078    | 3            | D          | 8,0  | 8,0  | 12,0  | 108,0 | —    | —   | 4,0  | —   | 2     | Cylindrical | ■              |
| JHB970100D3B.0Z2 | SIRA  | 10072079    | 3            | D          | 10,0 | 10,0 | 15,0  | 125,0 | —    | —   | 5,0  | —   | 2     | Cylindrical | ■              |
| JHB970120D3B.0Z2 | SIRA  | 10072080    | 3            | D          | 12,0 | 12,0 | 18,0  | 125,0 | —    | —   | 6,0  | —   | 2     | Cylindrical | ■              |

■ Stocked standard.

Cutting data – JHB970 Copy milling roughing

| SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$             |                   |                   |                   |                   |                  |                  |                  |                  |                  |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|--------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|------------------|-----------------|------------------------------------|
|     |                                                                                   |                |              | 2                 | 2.5               | 3                 | 3.5               | 4                 | 5                | 6                | 8                | 10               | 12               | 16              |                                    |
| P1  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.011<br>0.00044  | 0.014<br>0.00055  | 0.016<br>0.00065  | 0.019<br>0.00075  | 0.022<br>0.00085  | 0.028<br>0.0011  | 0.032<br>0.0013  | 0.044<br>0.0017  | 0.055<br>0.0022  | 0.065<br>0.0026  | 0.080<br>0.0032 | 210 (190 — 230)<br>690 (630 — 750) |
| P2  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.011<br>0.00044  | 0.014<br>0.00055  | 0.017<br>0.00065  | 0.019<br>0.00075  | 0.022<br>0.00085  | 0.028<br>0.0011  | 0.034<br>0.0013  | 0.044<br>0.0017  | 0.055<br>0.0022  | 0.065<br>0.0026  | 0.080<br>0.0032 | 205 (180 — 230)<br>670 (600 — 750) |
| P3  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.013<br>0.00050  | 0.016<br>0.00065  | 0.018<br>0.00070  | 0.020<br>0.00080  | 0.026<br>0.0010  | 0.032<br>0.0013  | 0.042<br>0.0017  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 180 (160 — 200)<br>590 (530 — 650) |
| P4  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.013<br>0.00050  | 0.015<br>0.00060  | 0.018<br>0.00070  | 0.020<br>0.00080  | 0.026<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 155 (140 — 170)<br>510 (460 — 550) |
| P5  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060  | 0.018<br>0.00065  | 0.020<br>0.00080  | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 150 (140 — 170)<br>490 (460 — 550) |
| P6  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060  | 0.017<br>0.00065  | 0.020<br>0.00080  | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 170 (150 — 190)<br>560 (500 — 620) |
| P7  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060  | 0.017<br>0.00065  | 0.020<br>0.00080  | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 160 (140 — 180)<br>520 (460 — 590) |
| P8  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.013<br>0.00050  | 0.016<br>0.00065  | 0.018<br>0.00070  | 0.020<br>0.00080  | 0.026<br>0.0010  | 0.032<br>0.0013  | 0.042<br>0.0017  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 150 (140 — 170)<br>490 (460 — 550) |
| P11 | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060  | 0.017<br>0.00065  | 0.020<br>0.00080  | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 75 (67 — 86)<br>245 (220 — 280)    |
| P12 | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.0070<br>0.00028 | 0.0085<br>0.00034 | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.014<br>0.00055  | 0.017<br>0.00065 | 0.020<br>0.00080 | 0.028<br>0.0011  | 0.034<br>0.0013  | 0.040<br>0.0016  | 0.050<br>0.0020 | 48 (42 — 53)<br>155 (140 — 170)    |
| M1  | E                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.0090<br>0.00036 | 0.011<br>0.00044  | 0.013<br>0.00050  | 0.015<br>0.00060  | 0.018<br>0.00070  | 0.022<br>0.00085 | 0.026<br>0.0010  | 0.036<br>0.0014  | 0.044<br>0.0017  | 0.050<br>0.0020  | 0.065<br>0.0026 | 90 (80 — 100)<br>295 (270 — 320)   |
| M2  | E                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.0080<br>0.00032 | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.014<br>0.00055  | 0.016<br>0.00065  | 0.020<br>0.00080 | 0.024<br>0.00095 | 0.032<br>0.0013  | 0.040<br>0.0016  | 0.048<br>0.0019  | 0.060<br>0.0024 | 75 (65 — 85)<br>245 (220 — 270)    |
| M3  | E                                                                                 | 0.150<br>0.150 | 1.0<br>1.0   | 0.0060<br>0.00024 | 0.0075<br>0.00030 | 0.0090<br>0.00036 | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012  | 0.036<br>0.0014  | 0.044<br>0.0017 | 65 (55 — 75)<br>215 (190 — 240)    |
| M4  | E                                                                                 | 0.150<br>0.150 | 1.0<br>1.0   | 0.0050<br>0.00020 | 0.0065<br>0.00026 | 0.0080<br>0.00032 | 0.0090<br>0.00036 | 0.010<br>0.00040  | 0.013<br>0.00050 | 0.016<br>0.00065 | 0.020<br>0.00080 | 0.026<br>0.0010  | 0.032<br>0.0013  | 0.038<br>0.0015 | 49 (42 — 56)<br>160 (140 — 180)    |
| M5  | E                                                                                 | 0.150<br>0.150 | 1.0<br>1.0   | 0.0050<br>0.00020 | 0.0065<br>0.00026 | 0.0080<br>0.00032 | 0.0090<br>0.00036 | 0.010<br>0.00040  | 0.013<br>0.00050 | 0.016<br>0.00065 | 0.020<br>0.00080 | 0.026<br>0.0010  | 0.032<br>0.0013  | 0.038<br>0.0015 | 41 (35 — 47)<br>135 (120 — 150)    |
| S1  | E                                                                                 | 0.100<br>0.100 | 0.80<br>0.80 | 0.0060<br>0.00024 | 0.0075<br>0.00030 | 0.0090<br>0.00036 | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012  | 0.036<br>0.0014  | 0.044<br>0.0017 | 50 (40 — 59)<br>165 (140 — 190)    |
| S2  | E                                                                                 | 0.100<br>0.100 | 0.80<br>0.80 | 0.0060<br>0.00024 | 0.0075<br>0.00030 | 0.0090<br>0.00036 | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012  | 0.036<br>0.0014  | 0.044<br>0.0017 | 40 (33 — 48)<br>130 (110 — 150)    |
| S3  | E                                                                                 | 0.100<br>0.100 | 0.60<br>0.60 | 0.0040<br>0.00016 | 0.0050<br>0.00020 | 0.0060<br>0.00024 | 0.0070<br>0.00028 | 0.0080<br>0.00032 | 0.010<br>0.00040 | 0.012<br>0.00048 | 0.016<br>0.00065 | 0.020<br>0.00080 | 0.024<br>0.00095 | 0.028<br>0.0011 | 30 (20 — 39)<br>100 (66 — 120)     |
| S11 | E                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060  | 0.018<br>0.00065  | 0.020<br>0.00080  | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 90 (79 — 100)<br>295 (260 — 320)   |
| S12 | E                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060  | 0.018<br>0.00065  | 0.020<br>0.00080  | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 70 (61 — 80)<br>230 (210 — 260)    |
| S13 | E                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.0085<br>0.00034 | 0.011<br>0.00044  | 0.013<br>0.00050  | 0.015<br>0.00060  | 0.017<br>0.00065  | 0.022<br>0.00085 | 0.026<br>0.0010  | 0.034<br>0.0013  | 0.044<br>0.0017  | 0.050<br>0.0020  | 0.065<br>0.0026 | 55 (48 — 63)<br>180 (160 — 200)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cf/p

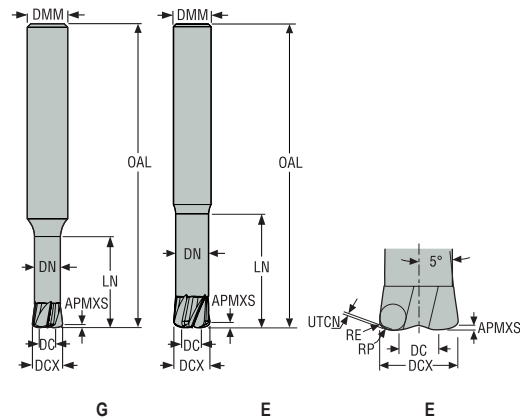
Graphite

X-Heads

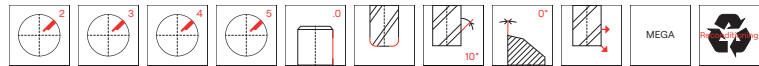
Minimaster

## JHF980

High feed – Universal – 2-5 Flutes – Cylindrical – Corner radius



—Tolerances:  
—DMM= h5  
—DC= -0,02/-0,05 mm  
—RE= ±0,05 mm  
—Regrind possible if DC is ≥Ø6

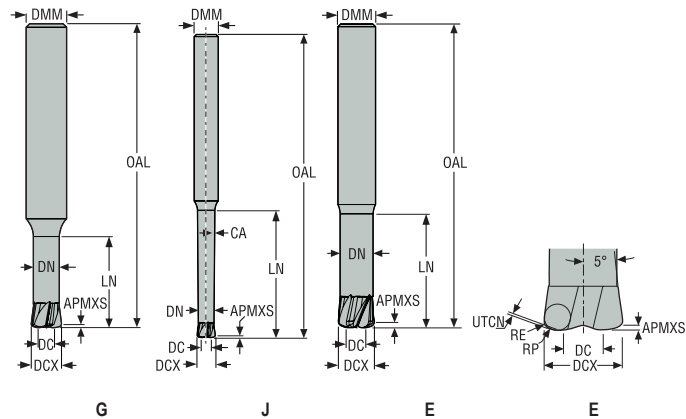


| Designation           | Item number | Length index | Tool shape | DCX  | DC   | DMM  | APMXS | OAL  | LN   | DN   | RE   | RP    | UTCN  | CA°  | PSIR° | PCEDC | Shank       | Stock standard |
|-----------------------|-------------|--------------|------------|------|------|------|-------|------|------|------|------|-------|-------|------|-------|-------|-------------|----------------|
|                       |             |              |            | mm   | mm   | mm   | mm    | mm   | mm   | mm   | mm   | mm    | mm    |      |       |       |             |                |
| 980K080Z3-MEGA        | 02587115    | 1            | E          | 8,0  | 4,0  | 8,0  | 0,4   | 70,0 | 12,0 | 3,0  | 0,6  | 0,935 | 0,198 | —    | -5,0  | 3     | Cylindrical | ■              |
| JHF980080E1H.0Z5-MEGA | 03003384    | 1            | E          | 8,0  | 4,0  | 8,0  | 0,4   | 70,0 | 12,0 | 7,0  | 0,6  | 0,935 | 0,198 | —    | -5,0  | 5     | Cylindrical | ■              |
| 980K100Z3-MEGA        | 02587117    | 1            | E          | 10,0 | 5,0  | 10,0 | 0,45  | 80,0 | 15,0 | 3,8  | 0,8  | 1,176 | 0,232 | —    | -5,0  | 3     | Cylindrical | ■              |
| JHF980100E1H.0Z5-MEGA | 03003385    | 1            | E          | 10,0 | 5,0  | 10,0 | 0,45  | 80,0 | 15,0 | 8,8  | 0,8  | 1,176 | 0,232 | —    | -5,0  | 5     | Cylindrical | ■              |
| 980K120Z3-MEGA        | 02587118    | 1            | E          | 12,0 | 6,0  | 12,0 | 0,5   | 80,0 | 18,0 | 4,6  | 1,0  | 1,417 | 0,265 | —    | -5,0  | 3     | Cylindrical | ■              |
| JHF980120E1H.0Z5-MEGA | 03003386    | 1            | E          | 12,0 | 6,0  | 12,0 | 0,5   | 80,0 | 18,0 | 10,6 | 1,0  | 1,417 | 0,265 | —    | -5,0  | 5     | Cylindrical | ■              |
| 980010-MEGA           | 02587111    | 2            | G          | 1,0  | 0,5  | 6,0  | 0,07  | 40,0 | 3,0  | 0,7  | 0,07 | 0,127 | 0,028 | 19,5 | -5,0  | 2     | Cylindrical | ■              |
| 980015-MEGA           | 02511199    | 2            | G          | 1,5  | 0,75 | 6,0  | 0,1   | 40,0 | 4,5  | 1,2  | 0,1  | 0,183 | 0,043 | 14,0 | -5,0  | 2     | Cylindrical | ■              |
| 980020-MEGA           | 02511221    | 2            | G          | 2,0  | 1,0  | 6,0  | 0,15  | 40,0 | 6,0  | 1,7  | 0,15 | 0,269 | 0,055 | 11,0 | -5,0  | 2     | Cylindrical | ■              |
| 980030-MEGA           | 02511224    | 2            | G          | 3,0  | 1,5  | 6,0  | 0,2   | 50,0 | 9,0  | 2,6  | 0,2  | 0,366 | 0,085 | 7,0  | -5,0  | 2     | Cylindrical | ■              |
| JHF980030G2H.0Z4-MEGA | 03003387    | 2            | G          | 3,0  | 1,5  | 6,0  | 0,2   | 50,0 | 9,0  | 2,6  | 0,2  | 0,366 | 0,085 | 7,12 | -5,0  | 4     | Cylindrical | ■              |
| 980040-MEGA           | 02511229    | 2            | G          | 4,0  | 2,0  | 6,0  | 0,25  | 60,0 | 12,0 | 3,5  | 0,3  | 0,503 | 0,107 | 4,0  | -5,0  | 2     | Cylindrical | ■              |
| JHF980040G2H.0Z4-MEGA | 03003388    | 2            | G          | 4,0  | 2,0  | 6,0  | 0,25  | 60,0 | 12,0 | 3,5  | 0,3  | 0,503 | 0,107 | 4,0  | -5,0  | 4     | Cylindrical | ■              |
| 980050-MEGA           | 02511233    | 2            | G          | 5,0  | 2,5  | 6,0  | 0,3   | 60,0 | 15,0 | 4,4  | 0,4  | 0,641 | 0,128 | 2,0  | -5,0  | 2     | Cylindrical | ■              |
| JHF980050G2H.0Z4-MEGA | 03003389    | 2            | G          | 5,0  | 2,5  | 6,0  | 0,3   | 60,0 | 15,0 | 4,4  | 0,4  | 0,641 | 0,128 | 1,77 | -5,0  | 4     | Cylindrical | ■              |
| 980060-MEGA           | 02511314    | 2            | G          | 6,0  | 3,0  | 8,0  | 0,35  | 60,0 | 18,0 | 5,2  | 0,5  | 0,778 | 0,15  | 3,0  | -5,0  | 2     | Cylindrical | ■              |
| JHF980060G2H.0Z4-MEGA | 03003390    | 2            | G          | 6,0  | 3,0  | 8,0  | 0,35  | 60,0 | 18,0 | 5,2  | 0,5  | 0,778 | 0,15  | 2,86 | -5,0  | 4     | Cylindrical | ■              |
| 980080-MEGA           | 02511322    | 2            | E          | 8,0  | 4,0  | 8,0  | 0,4   | 70,0 | 24,0 | 7,0  | 0,6  | 0,935 | 0,198 | —    | -5,0  | 2     | Cylindrical | ■              |
| JHF980080E2H.0Z5-MEGA | 03003391    | 2            | E          | 8,0  | 4,0  | 8,0  | 0,4   | 70,0 | 24,0 | 7,0  | 0,6  | 0,935 | 0,198 | —    | -5,0  | 5     | Cylindrical | ■              |
| 980100-MEGA           | 02511341    | 2            | E          | 10,0 | 5,0  | 10,0 | 0,45  | 80,0 | 30,0 | 8,8  | 0,8  | 1,176 | 0,232 | —    | -5,0  | 2     | Cylindrical | ■              |
| 980100Z3-MEGA         | 02511342    | 2            | E          | 10,0 | 5,0  | 10,0 | 0,45  | 80,0 | 30,0 | 8,8  | 0,8  | 1,176 | 0,232 | —    | -5,0  | 3     | Cylindrical | ■              |
| JHF980100E2H.0Z5-MEGA | 03003392    | 2            | E          | 10,0 | 5,0  | 10,0 | 0,45  | 80,0 | 30,0 | 8,8  | 0,8  | 1,176 | 0,232 | —    | -5,0  | 5     | Cylindrical | ■              |
| 980120-MEGA           | 02511346    | 2            | E          | 12,0 | 6,0  | 12,0 | 0,5   | 80,0 | 36,0 | 10,6 | 1,0  | 1,417 | 0,265 | —    | -5,0  | 2     | Cylindrical | ■              |
| 980120Z3-MEGA         | 02511347    | 2            | E          | 12,0 | 6,0  | 12,0 | 0,5   | 80,0 | 36,0 | 10,6 | 1,0  | 1,417 | 0,265 | —    | -5,0  | 3     | Cylindrical | ■              |
| JHF980120E2H.0Z5-MEGA | 03003393    | 2            | E          | 12,0 | 6,0  | 12,0 | 0,5   | 80,0 | 36,0 | 10,6 | 1,0  | 1,417 | 0,265 | —    | -5,0  | 5     | Cylindrical | ■              |

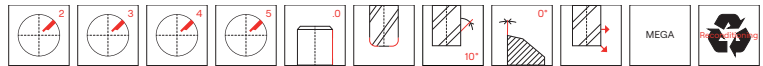
■ Stocked standard.  
\*UTCN=uncut-thickness

## JHF980

High feed – Universal – 2-5 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM= h5
- DC= -0,02/-0,05 mm
- RE= ±0,05 mm
- Regrind possible if DC is ≥ Ø6



| Designation           | Item number | Length index | Tool shape | DCX  | DC   | DMM  | AP-MXS | OAL   | LN   | DN   | RE   | RP    | UTCN  | CA°  | NA° | PSIR° | PCEDC | Shank       | Stock standard |
|-----------------------|-------------|--------------|------------|------|------|------|--------|-------|------|------|------|-------|-------|------|-----|-------|-------|-------------|----------------|
|                       |             |              |            | mm   | mm   | mm   | mm     | mm    | mm   | mm   | mm   | mm    | mm    |      |     |       |       |             |                |
| 980ML010-MEGA         | 02587113    | 3            | G          | 1,0  | 0,5  | 6,0  | 0,07   | 40,0  | 5,0  | 0,7  | 0,07 | 0,127 | 0,028 | 15,5 | —   | -5,0  | 2     | Cylindrical | ■              |
| 980ML015-MEGA         | 02511219    | 3            | G          | 1,5  | 0,75 | 6,0  | 0,1    | 40,0  | 7,5  | 1,2  | 0,1  | 0,183 | 0,043 | 10,5 | —   | -5,0  | 2     | Cylindrical | ■              |
| 980ML020-MEGA         | 02511222    | 3            | G          | 2,0  | 1,0  | 6,0  | 0,15   | 40,0  | 10,0 | 1,7  | 0,15 | 0,269 | 0,055 | 8,0  | —   | -5,0  | 2     | Cylindrical | ■              |
| JHF980020G3H.0Z4-MEGA | 03003394    | 3            | G          | 2,0  | 1,0  | 6,0  | 0,15   | 40,0  | 10,0 | 1,7  | 0,15 | 0,269 | 0,055 | 8,46 | —   | -5,0  | 4     | Cylindrical | ■              |
| 980ML030-MEGA         | 02511225    | 3            | G          | 3,0  | 1,5  | 6,0  | 0,2    | 50,0  | 15,0 | 2,6  | 0,2  | 0,366 | 0,085 | 5,0  | —   | -5,0  | 2     | Cylindrical | ■              |
| JHF980030G3H.0Z4-MEGA | 03003395    | 3            | G          | 3,0  | 1,5  | 6,0  | 0,2    | 50,0  | 15,0 | 2,6  | 0,2  | 0,366 | 0,085 | 4,79 | —   | -5,0  | 4     | Cylindrical | ■              |
| 980ML040-MEGA         | 02511231    | 3            | G          | 4,0  | 2,0  | 6,0  | 0,25   | 70,0  | 20,0 | 3,5  | 0,3  | 0,503 | 0,107 | 2,5  | —   | -5,0  | 2     | Cylindrical | ■              |
| JHF980040G3H.0Z4-MEGA | 03003396    | 3            | G          | 4,0  | 2,0  | 6,0  | 0,25   | 70,0  | 20,0 | 3,5  | 0,3  | 0,503 | 0,107 | 2,59 | —   | -5,0  | 4     | Cylindrical | ■              |
| 980ML050-MEGA         | 02511234    | 3            | G          | 5,0  | 2,5  | 6,0  | 0,3    | 80,0  | 25,0 | 4,4  | 0,4  | 0,641 | 0,128 | 1,5  | —   | -5,0  | 2     | Cylindrical | ■              |
| JHF980050G3H.0Z4-MEGA | 03003397    | 3            | G          | 5,0  | 2,5  | 6,0  | 0,3    | 80,0  | 25,0 | 4,4  | 0,4  | 0,641 | 0,128 | 1,12 | —   | -5,0  | 4     | Cylindrical | ■              |
| 980ML060-MEGA         | 02511315    | 3            | G          | 6,0  | 3,0  | 8,0  | 0,35   | 80,0  | 30,0 | 5,2  | 0,5  | 0,778 | 0,15  | 2,0  | —   | -5,0  | 2     | Cylindrical | ■              |
| JHF980060G3H.0Z4-MEGA | 03003398    | 3            | G          | 6,0  | 3,0  | 8,0  | 0,35   | 80,0  | 30,0 | 5,2  | 0,5  | 0,778 | 0,15  | 1,8  | —   | -5,0  | 4     | Cylindrical | ■              |
| 980ML080-MEGA         | 02511338    | 3            | E          | 8,0  | 4,0  | 8,0  | 0,4    | 80,0  | 40,0 | 7,0  | 0,6  | 0,935 | 0,198 | —    | —   | -5,0  | 2     | Cylindrical | ■              |
| JHF980080E3H.0Z5-MEGA | 03003399    | 3            | E          | 8,0  | 4,0  | 8,0  | 0,4    | 80,0  | 40,0 | 7,0  | 0,6  | 0,935 | 0,198 | —    | —   | -5,0  | 5     | Cylindrical | ■              |
| 980ML100-MEGA         | 02511344    | 3            | E          | 10,0 | 5,0  | 10,0 | 0,45   | 90,0  | 50,0 | 8,8  | 0,8  | 1,176 | 0,232 | —    | —   | -5,0  | 2     | Cylindrical | ■              |
| JHF980100E3H.0Z5-MEGA | 03003400    | 3            | E          | 10,0 | 5,0  | 10,0 | 0,45   | 90,0  | 50,0 | 8,8  | 0,8  | 1,176 | 0,232 | —    | —   | -5,0  | 5     | Cylindrical | ■              |
| 980ML120-MEGA         | 02511348    | 3            | E          | 12,0 | 6,0  | 12,0 | 0,5    | 110,0 | 60,0 | 10,6 | 1,0  | 1,417 | 0,265 | —    | —   | -5,0  | 2     | Cylindrical | ■              |
| JHF980120E3H.0Z5-MEGA | 03003401    | 3            | E          | 12,0 | 6,0  | 12,0 | 0,5    | 110,0 | 60,0 | 10,6 | 1,0  | 1,417 | 0,265 | —    | —   | -5,0  | 5     | Cylindrical | ■              |
| 980TL010-MEGA         | 02587114    | 4            | J          | 1,0  | 0,5  | 6,0  | 0,07   | 40,0  | 7,0  | 0,7  | 0,07 | 0,127 | 0,028 | 13,0 | 0,5 | -5,0  | 2     | Cylindrical | ■              |
| 980TL015-MEGA         | 02511220    | 4            | J          | 1,5  | 0,75 | 6,0  | 0,1    | 40,0  | 10,5 | 1,2  | 0,1  | 0,183 | 0,043 | 8,5  | 0,5 | -5,0  | 2     | Cylindrical | ■              |
| 980TL020-MEGA         | 02511223    | 4            | J          | 2,0  | 1,0  | 6,0  | 0,15   | 50,0  | 14,0 | 1,7  | 0,15 | 0,269 | 0,055 | 6,5  | 0,5 | -5,0  | 2     | Cylindrical | ■              |
| 980TL030-MEGA         | 02511226    | 4            | J          | 3,0  | 1,5  | 6,0  | 0,2    | 60,0  | 21,0 | 2,6  | 0,2  | 0,366 | 0,085 | 3,5  | 0,5 | -5,0  | 2     | Cylindrical | ■              |
| JHF980030J4H.0Z4-MEGA | 03003402    | 4            | J          | 3,0  | 1,5  | 6,0  | 0,2    | 60,0  | 21,0 | 2,6  | 0,2  | 0,366 | 0,085 | 3,63 | 0,5 | -5,0  | 4     | Cylindrical | ■              |
| 980TL040-MEGA         | 02511232    | 4            | J          | 4,0  | 2,0  | 6,0  | 0,25   | 80,0  | 28,0 | 3,5  | 0,3  | 0,503 | 0,107 | 2,0  | 0,5 | -5,0  | 2     | Cylindrical | ■              |
| JHF980040J4H.0Z4-MEGA | 03003403    | 4            | J          | 4,0  | 2,0  | 6,0  | 0,25   | 80,0  | 28,0 | 3,5  | 0,3  | 0,503 | 0,107 | 1,93 | 0,5 | -5,0  | 4     | Cylindrical | ■              |
| 980TL050-MEGA         | 02511240    | 4            | J          | 5,0  | 2,5  | 6,0  | 0,3    | 90,0  | 35,0 | 4,4  | 0,4  | 0,641 | 0,128 | 1,0  | 0,5 | -5,0  | 2     | Cylindrical | ■              |
| JHF980050J4H.0Z4-MEGA | 03003404    | 4            | J          | 5,0  | 2,5  | 6,0  | 0,3    | 90,0  | 35,0 | 4,4  | 0,4  | 0,641 | 0,128 | 0,82 | 0,5 | -5,0  | 4     | Cylindrical | ■              |
| 980TL060-MEGA         | 02511321    | 4            | J          | 6,0  | 3,0  | 8,0  | 0,35   | 100,0 | 42,0 | 5,2  | 0,5  | 0,778 | 0,15  | 1,5  | 0,5 | -5,0  | 2     | Cylindrical | ■              |
| JHF980060J4H.0Z4-MEGA | 03003405    | 4            | J          | 6,0  | 3,0  | 8,0  | 0,35   | 100,0 | 42,0 | 5,2  | 0,5  | 0,778 | 0,15  | 1,33 | 0,5 | -5,0  | 4     | Cylindrical | ■              |
| 980TL080-MEGA         | 02511340    | 4            | E          | 8,0  | 4,0  | 8,0  | 0,4    | 100,0 | 56,0 | 7,0  | 0,6  | 0,935 | 0,198 | —    | 0,5 | -5,0  | 2     | Cylindrical | ■              |
| JHF980080E4H.0Z5-MEGA | 03003406    | 4            | E          | 8,0  | 4,0  | 8,0  | 0,4    | 100,0 | 56,0 | 7,0  | 0,6  | 0,935 | 0,198 | —    | —   | -5,0  | 5     | Cylindrical | ■              |
| 980TL100-MEGA         | 02511345    | 4            | E          | 10,0 | 5,0  | 10,0 | 0,45   | 110,0 | 70,0 | 8,8  | 0,8  | 1,176 | 0,232 | —    | 0,5 | -5,0  | 2     | Cylindrical | ■              |
| JHF980100E4H.0Z5-MEGA | 03003407    | 4            | E          | 10,0 | 5,0  | 10,0 | 0,45   | 110,0 | 70,0 | 8,8  | 0,8  | 1,176 | 0,232 | —    | —   | -5,0  | 5     | Cylindrical | ■              |
| 980TL120-MEGA         | 02511349    | 4            | E          | 12,0 | 6,0  | 12,0 | 0,5    | 130,0 | 84,0 | 10,6 | 1,0  | 1,417 | 0,265 | —    | 0,5 | -5,0  | 2     | Cylindrical | ■              |
| JHF980120E4H.0Z5-MEGA | 03003408    | 4            | E          | 12,0 | 6,0  | 12,0 | 0,5    | 130,0 | 84,0 | 10,6 | 1,0  | 1,417 | 0,265 | —    | —   | -5,0  | 5     | Cylindrical | ■              |

■ Stocked standard. \*UTCN=uncut-thickness

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfcp

Graphite

X-Heads

Minimaster

## Cutting data – JHF980 Side milling

|                                 | SMG |  | a <sub>e</sub> /DCX | a <sub>p</sub> /DCX | f <sub>z</sub>   |                 |                 |                 |                 |                |                |                |                |               | v <sub>c</sub>  |                    |
|---------------------------------|-----|-----------------------------------------------------------------------------------|---------------------|---------------------|------------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|---------------|-----------------|--------------------|
|                                 |     |                                                                                   |                     |                     | 1                | 1.5             | 2               | 3               | 4               | 5              | 6              | 8              | 10             | 12            |                 |                    |
| Universal                       | P1  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.050<br>0.0020  | 0.075<br>0.0030 | 0.10<br>0.0040  | 0.15<br>0.0060  | 0.20<br>0.0080  | 0.25<br>0.010  | 0.30<br>0.012  | 0.40<br>0.016  | 0.50<br>0.020  | 0.60<br>0.024 | 385 (350 — 430) | 1275 (1200 — 1400) |
|                                 | P2  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.050<br>0.0020  | 0.075<br>0.0030 | 0.10<br>0.0040  | 0.15<br>0.0060  | 0.20<br>0.0080  | 0.25<br>0.010  | 0.30<br>0.012  | 0.40<br>0.016  | 0.50<br>0.020  | 0.60<br>0.024 | 375 (340 — 410) | 1225 (1200 — 1300) |
| Steel and cast iron             | P3  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.050<br>0.0020  | 0.075<br>0.0030 | 0.10<br>0.0040  | 0.15<br>0.0060  | 0.20<br>0.0080  | 0.25<br>0.010  | 0.30<br>0.012  | 0.40<br>0.016  | 0.50<br>0.020  | 0.60<br>0.024 | 325 (290 — 360) | 1075 (960 — 1100)  |
|                                 | P4  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.050<br>0.0020  | 0.075<br>0.0030 | 0.10<br>0.0040  | 0.15<br>0.0060  | 0.20<br>0.0080  | 0.25<br>0.010  | 0.30<br>0.012  | 0.40<br>0.016  | 0.50<br>0.020  | 0.60<br>0.024 | 285 (260 — 310) | 940 (860 — 1000)   |
|                                 | P5  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.050<br>0.0020  | 0.075<br>0.0030 | 0.10<br>0.0040  | 0.15<br>0.0060  | 0.20<br>0.0080  | 0.25<br>0.010  | 0.30<br>0.012  | 0.40<br>0.016  | 0.50<br>0.020  | 0.60<br>0.024 | 275 (250 — 300) | 900 (830 — 980)    |
|                                 | P6  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.044<br>0.0017  | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.14<br>0.0055  | 0.18<br>0.0070  | 0.22<br>0.0085 | 0.28<br>0.011  | 0.36<br>0.014  | 0.44<br>0.017  | 0.55<br>0.022 | 215 (190 — 240) | 710 (630 — 780)    |
| Stainless steel and S-materials | P7  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.044<br>0.0017  | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.14<br>0.0055  | 0.18<br>0.0070  | 0.22<br>0.0085 | 0.28<br>0.011  | 0.36<br>0.014  | 0.44<br>0.017  | 0.55<br>0.022 | 205 (180 — 230) | 670 (600 — 750)    |
|                                 | P8  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.044<br>0.0017  | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.14<br>0.0055  | 0.18<br>0.0070  | 0.22<br>0.0085 | 0.28<br>0.011  | 0.36<br>0.014  | 0.44<br>0.017  | 0.55<br>0.022 | 190 (170 — 210) | 620 (560 — 680)    |
|                                 | P11 | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.044<br>0.0017  | 0.070<br>0.0028 | 0.090<br>0.0036 | 0.14<br>0.0055  | 0.18<br>0.0070  | 0.22<br>0.0085 | 0.28<br>0.011  | 0.36<br>0.014  | 0.44<br>0.017  | 0.55<br>0.022 | 195 (170 — 220) | 640 (560 — 720)    |
|                                 | P12 | E/M/A                                                                             | 0.30<br>0.30        | 0.036<br>0.036      | 0.040<br>0.0016  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.12<br>0.0048  | 0.16<br>0.0065  | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013  | 0.40<br>0.016  | 0.48<br>0.019 | 120 (110 — 130) | 395 (370 — 420)    |
| Non ferrous                     | M1  | E/M/A                                                                             | 0.30<br>0.30        | 0.036<br>0.036      | 0.040<br>0.0016  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.12<br>0.0048  | 0.16<br>0.0065  | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013  | 0.40<br>0.016  | 0.48<br>0.019 | 190 (170 — 210) | 620 (560 — 680)    |
|                                 | M2  | E/M/A                                                                             | 0.30<br>0.30        | 0.036<br>0.036      | 0.040<br>0.0016  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.12<br>0.0048  | 0.16<br>0.0065  | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013  | 0.40<br>0.016  | 0.48<br>0.019 | 150 (140 — 160) | 490 (460 — 520)    |
|                                 | M3  | E/M/A                                                                             | 0.30<br>0.30        | 0.036<br>0.036      | 0.040<br>0.0016  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.12<br>0.0048  | 0.16<br>0.0065  | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013  | 0.40<br>0.016  | 0.48<br>0.019 | 115 (98 — 130)  | 375 (330 — 420)    |
|                                 | M4  | E/M/A                                                                             | 0.30<br>0.30        | 0.036<br>0.036      | 0.040<br>0.0016  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.12<br>0.0048  | 0.16<br>0.0065  | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013  | 0.40<br>0.016  | 0.48<br>0.019 | 85 (73 — 100)   | 280 (240 — 320)    |
| Hard                            | M5  | E/M/A                                                                             | 0.30<br>0.30        | 0.036<br>0.036      | 0.040<br>0.0016  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.12<br>0.0048  | 0.16<br>0.0065  | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013  | 0.40<br>0.016  | 0.48<br>0.019 | 70 (61 — 83)    | 230 (210 — 270)    |
|                                 | K1  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.040<br>0.0016  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.12<br>0.0048  | 0.16<br>0.0065  | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013  | 0.40<br>0.016  | 0.48<br>0.019 | 225 (200 — 250) | 740 (660 — 820)    |
|                                 | K2  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.040<br>0.0016  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.12<br>0.0048  | 0.16<br>0.0065  | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013  | 0.40<br>0.016  | 0.48<br>0.019 | 195 (170 — 220) | 640 (560 — 720)    |
|                                 | K3  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.040<br>0.0016  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.12<br>0.0048  | 0.16<br>0.0065  | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013  | 0.40<br>0.016  | 0.48<br>0.019 | 165 (150 — 180) | 540 (500 — 590)    |
| Plastic and cfrp                | K4  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.040<br>0.0016  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.12<br>0.0048  | 0.16<br>0.0065  | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013  | 0.40<br>0.016  | 0.48<br>0.019 | 155 (140 — 170) | 510 (460 — 550)    |
|                                 | K5  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.032<br>0.0013  | 0.050<br>0.0020 | 0.065<br>0.0026 | 0.10<br>0.0040  | 0.13<br>0.0050  | 0.16<br>0.0065 | 0.20<br>0.0080 | 0.26<br>0.010  | 0.32<br>0.013  | 0.40<br>0.016 | 165 (140 — 190) | 540 (460 — 620)    |
|                                 | K6  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.032<br>0.0013  | 0.050<br>0.0020 | 0.065<br>0.0026 | 0.10<br>0.0040  | 0.13<br>0.0050  | 0.16<br>0.0065 | 0.20<br>0.0080 | 0.26<br>0.010  | 0.32<br>0.013  | 0.40<br>0.016 | 245 (200 — 290) | 800 (660 — 950)    |
|                                 | K7  | E/M/A                                                                             | 0.30<br>0.30        | 0.040<br>0.040      | 0.032<br>0.0013  | 0.050<br>0.0020 | 0.065<br>0.0026 | 0.10<br>0.0040  | 0.13<br>0.0050  | 0.16<br>0.0065 | 0.20<br>0.0080 | 0.26<br>0.010  | 0.32<br>0.013  | 0.40<br>0.016 | 210 (170 — 250) | 690 (560 — 820)    |
| Graphite                        | S1  | E                                                                                 | 0.30<br>0.30        | 0.022<br>0.022      | 0.024<br>0.00095 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.070<br>0.0028 | 0.095<br>0.0038 | 0.12<br>0.0048 | 0.14<br>0.0055 | 0.19<br>0.0075 | 0.24<br>0.0095 | 0.28<br>0.011 | 60 (50 — 74)    | 195 (170 — 240)    |
|                                 | S2  | E                                                                                 | 0.30<br>0.30        | 0.022<br>0.022      | 0.024<br>0.00095 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.070<br>0.0028 | 0.095<br>0.0038 | 0.12<br>0.0048 | 0.14<br>0.0055 | 0.19<br>0.0075 | 0.24<br>0.0095 | 0.28<br>0.011 | 50 (41 — 60)    | 165 (140 — 190)    |
|                                 | S3  | E                                                                                 | 0.30<br>0.30        | 0.022<br>0.022      | 0.024<br>0.00095 | 0.036<br>0.0014 | 0.048<br>0.0019 | 0.070<br>0.0028 | 0.095<br>0.0038 | 0.12<br>0.0048 | 0.14<br>0.0055 | 0.19<br>0.0075 | 0.24<br>0.0095 | 0.28<br>0.011 | 37 (25 — 49)    | 120 (83 — 160)     |
|                                 | S11 | E                                                                                 | 0.30<br>0.30        | 0.022<br>0.022      | 0.036<br>0.0014  | 0.050<br>0.0020 | 0.070<br>0.0028 | 0.10<br>0.0040  | 0.14<br>0.0055  | 0.18<br>0.0070 | 0.20<br>0.0080 | 0.28<br>0.011  | 0.36<br>0.014  | 0.42<br>0.017 | 175 (160 — 190) | 570 (530 — 620)    |
| X-Heads                         | S12 | E                                                                                 | 0.30<br>0.30        | 0.022<br>0.022      | 0.036<br>0.0014  | 0.050<br>0.0020 | 0.070<br>0.0028 | 0.10<br>0.0040  | 0.14<br>0.0055  | 0.18<br>0.0070 | 0.20<br>0.0080 | 0.28<br>0.011  | 0.36<br>0.014  | 0.42<br>0.017 | 135 (120 — 150) | 445 (400 — 490)    |
|                                 | S13 | E                                                                                 | 0.30<br>0.30        | 0.022<br>0.022      | 0.036<br>0.0014  | 0.050<br>0.0020 | 0.070<br>0.0028 | 0.10<br>0.0040  | 0.14<br>0.0055  | 0.18<br>0.0070 | 0.20<br>0.0080 | 0.28<br>0.011  | 0.36<br>0.014  | 0.42<br>0.017 | 105 (90 — 110)  | 345 (300 — 360)    |
|                                 | H5  | M/A/D                                                                             | 0.30<br>0.30        | 0.036<br>0.036      | 0.040<br>0.0016  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.12<br>0.0048  | 0.16<br>0.0065  | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013  | 0.40<br>0.016  | 0.48<br>0.019 | 115 (98 — 130)  | 375 (330 — 420)    |
|                                 | H8  | M/A/D                                                                             | 0.30<br>0.30        | 0.036<br>0.036      | 0.040<br>0.0016  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.12<br>0.0048  | 0.16<br>0.0065  | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013  | 0.40<br>0.016  | 0.48<br>0.019 | 115 (98 — 130)  | 375 (330 — 420)    |
| Minimaster                      | H21 | M/A/D                                                                             | 0.30<br>0.30        | 0.036<br>0.036      | 0.040<br>0.0016  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.12<br>0.0048  | 0.16<br>0.0065  | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013  | 0.40<br>0.016  | 0.48<br>0.019 | 115 (98 — 130)  | 375 (330 — 420)    |
|                                 | H31 | M/A/D                                                                             | 0.30<br>0.30        | 0.036<br>0.036      | 0.040<br>0.0016  | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.12<br>0.0048  | 0.16<br>0.0065  | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013  | 0.40<br>0.016  | 0.48<br>0.019 | 90 (74 — 100)   | 295 (250 — 320)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values



### Cutting data – JHF980 Slot milling

| SMG |  | a <sub>p</sub> /DCX | f <sub>z</sub>   |                 |                 |                 |                 |                 |                |                |                |                | v <sub>c</sub>                        |                     |
|-----|-----------------------------------------------------------------------------------|---------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|---------------------------------------|---------------------|
|     |                                                                                   |                     | 1                | 1.5             | 2               | 3               | 4               | 5               | 6              | 8              | 10             | 12             |                                       |                     |
| P1  | E/M/A                                                                             | 0.040<br>0,040      | 0.030<br>0,0012  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070 | 0.24<br>0,0095 | 0.30<br>0,012  | 0.36<br>0,014  | 340 (310 — 370)<br>1125 (1100 — 1200) | Steel and cast iron |
| P2  | E/M/A                                                                             | 0.040<br>0,040      | 0.030<br>0,0012  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070 | 0.24<br>0,0095 | 0.30<br>0,012  | 0.36<br>0,014  | 330 (300 — 360)<br>1075 (990 — 1100)  |                     |
| P3  | E/M/A                                                                             | 0.040<br>0,040      | 0.030<br>0,0012  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070 | 0.24<br>0,0095 | 0.30<br>0,012  | 0.36<br>0,014  | 285 (260 — 310)<br>940 (860 — 1000)   |                     |
| P4  | E/M/A                                                                             | 0.040<br>0,040      | 0.030<br>0,0012  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070 | 0.24<br>0,0095 | 0.30<br>0,012  | 0.36<br>0,014  | 250 (230 — 270)<br>820 (760 — 880)    |                     |
| P5  | E/M/A                                                                             | 0.040<br>0,040      | 0.030<br>0,0012  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070 | 0.24<br>0,0095 | 0.30<br>0,012  | 0.36<br>0,014  | 240 (220 — 260)<br>790 (730 — 850)    |                     |
| P6  | E/M/A                                                                             | 0.040<br>0,040      | 0.028<br>0,0011  | 0.040<br>0,0016 | 0.055<br>0,0022 | 0.080<br>0,0032 | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.16<br>0,0065 | 0.22<br>0,0085 | 0.28<br>0,011  | 0.32<br>0,013  | 185 (160 — 210)<br>610 (530 — 680)    |                     |
| P7  | E/M/A                                                                             | 0.040<br>0,040      | 0.028<br>0,0011  | 0.040<br>0,0016 | 0.055<br>0,0022 | 0.080<br>0,0032 | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.16<br>0,0065 | 0.22<br>0,0085 | 0.28<br>0,011  | 0.32<br>0,013  | 175 (160 — 200)<br>570 (530 — 650)    |                     |
| P8  | E/M/A                                                                             | 0.040<br>0,040      | 0.028<br>0,0011  | 0.040<br>0,0016 | 0.055<br>0,0022 | 0.080<br>0,0032 | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.16<br>0,0065 | 0.22<br>0,0085 | 0.28<br>0,011  | 0.32<br>0,013  | 165 (150 — 180)<br>540 (500 — 590)    |                     |
| P11 | E/M/A                                                                             | 0.040<br>0,040      | 0.028<br>0,0011  | 0.040<br>0,0016 | 0.055<br>0,0022 | 0.080<br>0,0032 | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.16<br>0,0065 | 0.22<br>0,0085 | 0.28<br>0,011  | 0.32<br>0,013  | 170 (150 — 190)<br>560 (500 — 620)    |                     |
| P12 | E/M/A                                                                             | 0.036<br>0,036      | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055 | 0.19<br>0,0075 | 0.24<br>0,0095 | 0.28<br>0,011  | 105 (90 — 110)<br>345 (300 — 360)     |                     |
| M1  | E/M/A                                                                             | 0.036<br>0,036      | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055 | 0.19<br>0,0075 | 0.24<br>0,0095 | 0.28<br>0,011  | 165 (150 — 180)<br>540 (500 — 590)    | Non ferrous         |
| M2  | E/M/A                                                                             | 0.036<br>0,036      | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055 | 0.19<br>0,0075 | 0.24<br>0,0095 | 0.28<br>0,011  | 130 (120 — 140)<br>425 (400 — 450)    |                     |
| M3  | E/M/A                                                                             | 0.036<br>0,036      | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055 | 0.19<br>0,0075 | 0.24<br>0,0095 | 0.28<br>0,011  | 100 (85 — 110)<br>330 (280 — 360)     |                     |
| M4  | E/M/A                                                                             | 0.036<br>0,036      | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055 | 0.19<br>0,0075 | 0.24<br>0,0095 | 0.28<br>0,011  | 75 (64 — 87)<br>245 (210 — 280)       |                     |
| M5  | E/M/A                                                                             | 0.036<br>0,036      | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055 | 0.19<br>0,0075 | 0.24<br>0,0095 | 0.28<br>0,011  | 65 (53 — 72)<br>215 (180 — 230)       |                     |
| K1  | E/M/A                                                                             | 0.040<br>0,040      | 0.030<br>0,0012  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070 | 0.24<br>0,0095 | 0.30<br>0,012  | 0.36<br>0,014  | 185 (160 — 210)<br>610 (530 — 680)    | Hard                |
| K2  | E/M/A                                                                             | 0.040<br>0,040      | 0.030<br>0,0012  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070 | 0.24<br>0,0095 | 0.30<br>0,012  | 0.36<br>0,014  | 160 (140 — 180)<br>520 (460 — 590)    |                     |
| K3  | E/M/A                                                                             | 0.040<br>0,040      | 0.030<br>0,0012  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070 | 0.24<br>0,0095 | 0.30<br>0,012  | 0.36<br>0,014  | 135 (120 — 150)<br>445 (400 — 490)    |                     |
| K4  | E/M/A                                                                             | 0.040<br>0,040      | 0.030<br>0,0012  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070 | 0.24<br>0,0095 | 0.30<br>0,012  | 0.36<br>0,014  | 130 (120 — 140)<br>425 (400 — 450)    |                     |
| K5  | E/M/A                                                                             | 0.040<br>0,040      | 0.028<br>0,0011  | 0.040<br>0,0016 | 0.055<br>0,0022 | 0.080<br>0,0032 | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.16<br>0,0065 | 0.22<br>0,0085 | 0.28<br>0,011  | 0.32<br>0,013  | 135 (110 — 150)<br>445 (370 — 490)    |                     |
| K6  | E/M/A                                                                             | 0.040<br>0,040      | 0.028<br>0,0011  | 0.040<br>0,0016 | 0.055<br>0,0022 | 0.080<br>0,0032 | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.16<br>0,0065 | 0.22<br>0,0085 | 0.28<br>0,011  | 0.32<br>0,013  | 195 (160 — 230)<br>640 (530 — 750)    |                     |
| K7  | E/M/A                                                                             | 0.040<br>0,040      | 0.028<br>0,0011  | 0.040<br>0,0016 | 0.055<br>0,0022 | 0.080<br>0,0032 | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.16<br>0,0065 | 0.22<br>0,0085 | 0.28<br>0,011  | 0.32<br>0,013  | 170 (140 — 200)<br>560 (460 — 650)    |                     |
| S1  | E                                                                                 | 0.022<br>0,022      | 0.018<br>0,00070 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.22<br>0,0085 | 50 (42 — 62)<br>165 (140 — 200)       | Graphite            |
| S2  | E                                                                                 | 0.022<br>0,022      | 0.018<br>0,00070 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.22<br>0,0085 | 42 (34 — 50)<br>140 (120 — 160)       |                     |
| S3  | E                                                                                 | 0.022<br>0,022      | 0.018<br>0,00070 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.22<br>0,0085 | 31 (21 — 41)<br>100 (69 — 130)        |                     |
| S11 | E                                                                                 | 0.022<br>0,022      | 0.018<br>0,00070 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.22<br>0,0085 | 155 (140 — 170)<br>510 (460 — 550)    |                     |
| S12 | E                                                                                 | 0.022<br>0,022      | 0.018<br>0,00070 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.22<br>0,0085 | 120 (110 — 130)<br>395 (370 — 420)    |                     |
| S13 | E                                                                                 | 0.022<br>0,022      | 0.018<br>0,00070 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.22<br>0,0085 | 95 (82 — 100)<br>310 (270 — 320)      | X-Heads             |
| H5  | M/A/D                                                                             | 0.036<br>0,036      | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055 | 0.19<br>0,0075 | 0.24<br>0,0095 | 0.28<br>0,011  | 100 (86 — 110)<br>330 (290 — 360)     |                     |
| H8  | M/A/D                                                                             | 0.036<br>0,036      | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055 | 0.19<br>0,0075 | 0.24<br>0,0095 | 0.28<br>0,011  | 100 (86 — 110)<br>330 (290 — 360)     |                     |
| H21 | M/A/D                                                                             | 0.036<br>0,036      | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055 | 0.19<br>0,0075 | 0.24<br>0,0095 | 0.28<br>0,011  | 100 (86 — 110)<br>330 (290 — 360)     |                     |
| H31 | M/A/D                                                                             | 0.036<br>0,036      | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055 | 0.19<br>0,0075 | 0.24<br>0,0095 | 0.28<br>0,011  | 75 (65 — 88)<br>245 (220 — 280)       | Minimaster          |

For cutting data recalculations, see pages 699 - 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub>= m/min (sf/min)

f<sub>z</sub> = mm/tooth (in/tooth)

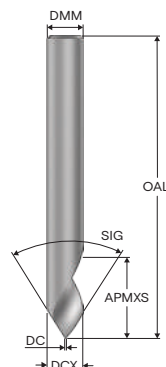
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

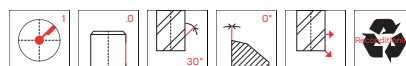
J29

General purpose – Universal – Engraving – 1 Flute – Cylindrical



D

—Tolerances:  
—DMM=h5  
—Regrind possible if DMM is  $\geq \varnothing 6$



| Designation | Item number | Length index | Tool shape | DCX       | DC        | DMM       | APMXS     | OAL        | PSIR° | PCEDC | Shank       | Stock standard |
|-------------|-------------|--------------|------------|-----------|-----------|-----------|-----------|------------|-------|-------|-------------|----------------|
| 29030       | 00029373    | 2            | D          | mm<br>3,0 | mm<br>0,2 | mm<br>3,0 | mm<br>2,6 | mm<br>40,0 | 30,0  | 1     | Cylindrical | ■              |
| 29040       | 00029381    | 2            | D          | 4,0       | 0,2       | 4,0       | 3,5       | 50,0       | 30,0  | 1     | Cylindrical | ■              |
| 29060       | 00029396    | 2            | D          | 6,0       | 0,2       | 6,0       | 5,2       | 50,0       | 30,0  | 1     | Cylindrical | ■              |

■ Stocked standard.



## Cutting data – J29 Slot milling

| SMG |  | $a_p/DC$     | $f_z$          |                |                | $v_c$                           |
|-----|-----------------------------------------------------------------------------------|--------------|----------------|----------------|----------------|---------------------------------|
|     |                                                                                   |              | 3              | 4              | 6              |                                 |
| P1  | E                                                                                 | 0.50<br>0,50 | 0.24<br>0,0095 | 0.26<br>0,010  | 0.28<br>0,011  | 42 (32 – 63)<br>140 (110 – 200) |
| P2  | E                                                                                 | 0.50<br>0,50 | 0.24<br>0,0095 | 0.26<br>0,010  | 0.30<br>0,012  | 41 (32 – 61)<br>135 (110 – 200) |
| P3  | E                                                                                 | 0.50<br>0,50 | 0.24<br>0,0095 | 0.25<br>0,010  | 0.28<br>0,011  | 36 (28 – 54)<br>120 (92 – 170)  |
| P4  | E                                                                                 | 0.50<br>0,50 | 0.22<br>0,0085 | 0.24<br>0,0095 | 0.26<br>0,010  | 31 (24 – 47)<br>100 (79 – 150)  |
| P5  | E                                                                                 | 0.50<br>0,50 | 0.22<br>0,0085 | 0.24<br>0,0095 | 0.26<br>0,010  | 30 (23 – 45)<br>100 (76 – 140)  |
| P6  | E                                                                                 | 0.50<br>0,50 | 0.22<br>0,0085 | 0.24<br>0,0095 | 0.26<br>0,010  | 34 (26 – 51)<br>110 (86 – 160)  |
| P7  | E                                                                                 | 0.50<br>0,50 | 0.22<br>0,0085 | 0.24<br>0,0095 | 0.26<br>0,010  | 32 (25 – 48)<br>105 (83 – 150)  |
| P8  | E                                                                                 | 0.50<br>0,50 | 0.24<br>0,0095 | 0.25<br>0,010  | 0.28<br>0,011  | 30 (23 – 45)<br>100 (76 – 140)  |
| P11 | E                                                                                 | 0.50<br>0,50 | 0.22<br>0,0085 | 0.24<br>0,0095 | 0.26<br>0,010  | 31 (24 – 46)<br>100 (79 – 150)  |
| P12 | E                                                                                 | 0.50<br>0,50 | 0.15<br>0,0060 | 0.16<br>0,0065 | 0.18<br>0,0070 | 19 (15 – 29)<br>60 (50 – 95)    |
| M1  | E                                                                                 | 0.50<br>0,50 | 0.22<br>0,0085 | 0.24<br>0,0095 | 0.26<br>0,010  | 30 (23 – 45)<br>100 (76 – 140)  |
| M2  | E                                                                                 | 0.50<br>0,50 | 0.22<br>0,0085 | 0.24<br>0,0095 | 0.26<br>0,010  | 30 (23 – 45)<br>100 (76 – 140)  |
| M3  | E                                                                                 | 0.50<br>0,50 | 0.18<br>0,0070 | 0.19<br>0,0075 | 0.22<br>0,0085 | 24 (18 – 35)<br>80 (60 – 110)   |
| M4  | E                                                                                 | 0.50<br>0,50 | 0.16<br>0,0065 | 0.17<br>0,0065 | 0.18<br>0,0070 | 18 (14 – 27)<br>60 (46 – 88)    |
| M5  | E                                                                                 | 0.50<br>0,50 | 0.16<br>0,0065 | 0.17<br>0,0065 | 0.18<br>0,0070 | 15 (12 – 22)<br>49 (40 – 72)    |
| K1  | E                                                                                 | 0.50<br>0,50 | 0.22<br>0,0085 | 0.24<br>0,0095 | 0.26<br>0,010  | 30 (23 – 45)<br>100 (76 – 140)  |
| K2  | E                                                                                 | 0.50<br>0,50 | 0.20<br>0,0080 | 0.22<br>0,0085 | 0.24<br>0,0095 | 26 (21 – 40)<br>85 (69 – 130)   |
| K3  | E                                                                                 | 0.50<br>0,50 | 0.20<br>0,0080 | 0.22<br>0,0085 | 0.24<br>0,0095 | 22 (17 – 33)<br>70 (56 – 100)   |
| K4  | E                                                                                 | 0.50<br>0,50 | 0.20<br>0,0080 | 0.22<br>0,0085 | 0.24<br>0,0095 | 21 (17 – 32)<br>70 (56 – 100)   |
| K5  | E                                                                                 | 0.50<br>0,50 | 0.18<br>0,0070 | 0.20<br>0,0080 | 0.22<br>0,0085 | 13 (9.8 – 19)<br>43 (33 – 62)   |
| K6  | E                                                                                 | 0.50<br>0,50 | 0.20<br>0,0080 | 0.22<br>0,0085 | 0.24<br>0,0095 | 19 (15 – 28)<br>60 (50 – 91)    |
| K7  | E                                                                                 | 0.50<br>0,50 | 0.18<br>0,0070 | 0.20<br>0,0080 | 0.22<br>0,0085 | 16 (13 – 25)<br>50 (43 – 82)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm/tooth (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_g$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrrp

Graphite

X-Heads

Minimaster

## Cutting data – J29 Slot milling

| SMG |       |  | $a_p$ /DC | $f_z$  |        |        | $v_c$           |
|-----|-------|-----------------------------------------------------------------------------------|-----------|--------|--------|--------|-----------------|
|     |       |                                                                                   |           | 3      | 4      | 6      |                 |
| N1  | E     |                                                                                   | 0.50      | 0.22   | 0.24   | 0.26   | 30 (23 — 45)    |
|     |       |                                                                                   | 0,50      | 0,0085 | 0,0095 | 0,010  | 100 (76 — 140)  |
| N2  | E     |                                                                                   | 0.50      | 0.22   | 0.24   | 0.26   | 19 (15 — 29)    |
|     |       |                                                                                   | 0,50      | 0,0085 | 0,0095 | 0,010  | 60 (50 — 95)    |
| N3  | E     |                                                                                   | 0.50      | 0.22   | 0.24   | 0.26   | 13 (9.8 — 19)   |
|     |       |                                                                                   | 0,50      | 0,0085 | 0,0095 | 0,010  | 43 (33 — 62)    |
| N11 | E     |                                                                                   | 0.50      | 0.22   | 0.24   | 0.26   | 17 (14 — 26)    |
|     |       |                                                                                   | 0,50      | 0,0085 | 0,0095 | 0,010  | 55 (46 — 85)    |
| S1  | E     |                                                                                   | 0.50      | 0.24   | 0.26   | 0.28   | 43 (33 — 64)    |
|     |       |                                                                                   | 0,50      | 0,0095 | 0,010  | 0,011  | 140 (110 — 200) |
| S2  | E     |                                                                                   | 0.50      | 0.24   | 0.26   | 0.28   | 34 (27 — 51)    |
|     |       |                                                                                   | 0,50      | 0,0095 | 0,010  | 0,011  | 110 (89 — 160)  |
| S3  | E     |                                                                                   | 0.50      | 0.22   | 0.24   | 0.26   | 30 (23 — 45)    |
|     |       |                                                                                   | 0,50      | 0,0085 | 0,0095 | 0,010  | 100 (76 — 140)  |
| S11 | E     |                                                                                   | 0.50      | 0.22   | 0.24   | 0.26   | 39 (30 — 59)    |
|     |       |                                                                                   | 0,50      | 0,0085 | 0,0095 | 0,010  | 130 (99 — 190)  |
| S12 | E     |                                                                                   | 0.50      | 0.22   | 0.24   | 0.26   | 30 (23 — 45)    |
|     |       |                                                                                   | 0,50      | 0,0085 | 0,0095 | 0,010  | 100 (76 — 140)  |
| S13 | E     |                                                                                   | 0.50      | 0.19   | 0.20   | 0.24   | 24 (18 — 35)    |
|     |       |                                                                                   | 0,50      | 0,0075 | 0,0080 | 0,0095 | 80 (60 — 110)   |
| H5  | M/A/D |                                                                                   | 0.50      | 0.22   | 0.24   | 0.26   | 30 (23 — 45)    |
|     |       |                                                                                   | 0,50      | 0,0085 | 0,0095 | 0,010  | 100 (76 — 140)  |
| H8  | M/A/D |                                                                                   | 0.50      | 0.17   | 0.18   | 0.20   | 32 (24 — 47)    |
|     |       |                                                                                   | 0,50      | 0,0065 | 0,0070 | 0,0080 | 105 (79 — 150)  |
| H11 | M/A/D |                                                                                   | 0.50      | 0.22   | 0.24   | 0.26   | 39 (30 — 58)    |
|     |       |                                                                                   | 0,50      | 0,0085 | 0,0095 | 0,010  | 130 (99 — 190)  |
| H12 | M/A/D |                                                                                   | 0.50      | 0.12   | 0.12   | 0.14   | 12 (9.1 — 18)   |
|     |       |                                                                                   | 0,50      | 0,0048 | 0,0048 | 0,0055 | 39 (30 — 59)    |
| H21 | M/A/D |                                                                                   | 0.50      | 0.17   | 0.18   | 0.20   | 32 (24 — 47)    |
|     |       |                                                                                   | 0,50      | 0,0065 | 0,0070 | 0,0080 | 105 (79 — 150)  |
| H31 | M/A/D |                                                                                   | 0.50      | 0.15   | 0.16   | 0.17   | 24 (19 — 36)    |
|     |       |                                                                                   | 0,50      | 0,0060 | 0,0065 | 0,0065 | 80 (63 — 110)   |
| TS1 | E     |                                                                                   | 0.50      | 0.22   | 0.24   | 0.26   | 30 (23 — 45)    |
|     |       |                                                                                   | 0,50      | 0,0085 | 0,0095 | 0,010  | 100 (76 — 140)  |
| TP1 | E     |                                                                                   | 0.50      | 0.22   | 0.24   | 0.26   | 30 (23 — 45)    |
|     |       |                                                                                   | 0,50      | 0,0085 | 0,0095 | 0,010  | 100 (76 — 140)  |
| GR1 | D     |                                                                                   | 0.50      | 0.22   | 0.24   | 0.26   | 30 (23 — 45)    |
|     |       |                                                                                   | 0,50      | 0,0085 | 0,0095 | 0,010  | 100 (76 — 140)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm/tooth (in/tooth)

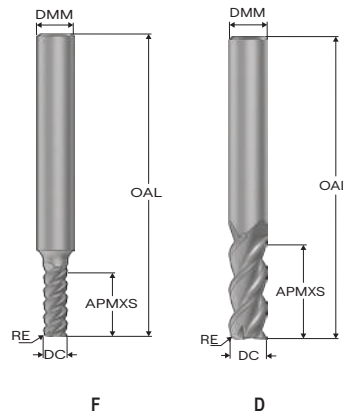
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

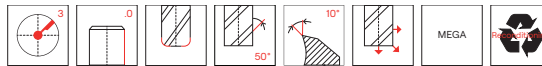
All cutting data are target values

J36

General purpose – Universal – Square – 3 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM= h5
- DC=  $\varnothing 2\text{-}\varnothing 6 = -0,02/-0,034$  mm
- DC=  $\varnothing 8\text{-}\varnothing 20 = -0,02/-0,044$  mm
- RE=  $\varnothing 2\text{-}\varnothing 12 = +0,05$  mm
- RE=  $\varnothing 14\text{-}\varnothing 20 = +0,1$  mm
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | CA° | PCEDC | Shank       | Stock standard |
|-------------|-------------|--------------|------------|------|------|-------|-------|-----|-----|-------|-------------|----------------|
|             |             |              |            | mm   | mm   | mm    | mm    | mm  |     |       |             |                |
| 36020-MEGA  | 00025621    | 2            | F          | 2,0  | 3,0  | 9,0   | 40,0  | 0,1 | 2,5 | 3     | Cylindrical | ■              |
| 36030-MEGA  | 00025626    | 2            | D          | 3,0  | 3,0  | 12,0  | 40,0  | 0,1 | —   | 3     | Cylindrical | ■              |
| 36040-MEGA  | 00025628    | 2            | D          | 4,0  | 4,0  | 14,0  | 50,0  | 0,1 | —   | 3     | Cylindrical | ■              |
| 36050-MEGA  | 00025651    | 2            | D          | 5,0  | 5,0  | 20,0  | 50,0  | 0,1 | —   | 3     | Cylindrical | ■              |
| 36060-MEGA  | 00025663    | 2            | D          | 6,0  | 6,0  | 20,0  | 65,0  | 0,1 | —   | 3     | Cylindrical | ■              |
| 36080-MEGA  | 00025674    | 2            | D          | 8,0  | 8,0  | 20,0  | 65,0  | 0,2 | —   | 3     | Cylindrical | ■              |
| 36100-MEGA  | 00025680    | 2            | D          | 10,0 | 10,0 | 25,0  | 75,0  | 0,2 | —   | 3     | Cylindrical | ■              |
| 36120-MEGA  | 00025681    | 2            | D          | 12,0 | 12,0 | 25,0  | 75,0  | 0,2 | —   | 3     | Cylindrical | ■              |
| 36160-MEGA  | 00025689    | 2            | D          | 16,0 | 16,0 | 30,0  | 90,0  | 0,5 | —   | 3     | Cylindrical | ■              |
| 36200-MEGA  | 00025692    | 2            | D          | 20,0 | 20,0 | 40,0  | 100,0 | 0,5 | —   | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

Graphite

X-Heads

Minimaster

## Cutting data – J36 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |        |        |        |        |        | v <sub>c</sub>  |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|---------|---------|---------|---------|--------|--------|--------|--------|--------|-----------------|
|     |                                                                                   |                    |                    | 2              | 3       | 4       | 5       | 6       | 8      | 10     | 12     | 16     | 20     |                 |
| P1  | E                                                                                 | 0.200              | 1.0                | 0.013          | 0.019   | 0.026   | 0.032   | 0.038   | 0.050  | 0.065  | 0.075  | 0.095  | 0.11   | 200 (170 — 220) |
|     |                                                                                   | 0,200              | 1,0                | 0,00050        | 0,00075 | 0,0010  | 0,0013  | 0,0015  | 0,0020 | 0,0026 | 0,0030 | 0,0038 | 0,0044 | 660 (560 — 720) |
| P2  | E                                                                                 | 0.200              | 1.0                | 0.013          | 0.020   | 0.026   | 0.034   | 0.040   | 0.055  | 0.065  | 0.080  | 0.095  | 0.11   | 190 (170 — 210) |
|     |                                                                                   | 0,200              | 1,0                | 0,00050        | 0,00080 | 0,0010  | 0,0013  | 0,0016  | 0,0022 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 620 (560 — 680) |
| P3  | E                                                                                 | 0.200              | 1.0                | 0.012          | 0.019   | 0.025   | 0.032   | 0.038   | 0.050  | 0.060  | 0.075  | 0.090  | 0.11   | 170 (150 — 190) |
|     |                                                                                   | 0,200              | 1,0                | 0,00048        | 0,00075 | 0,0010  | 0,0013  | 0,0015  | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0044 | 560 (500 — 620) |
| P4  | E                                                                                 | 0.200              | 1.0                | 0.012          | 0.018   | 0.024   | 0.030   | 0.036   | 0.048  | 0.060  | 0.070  | 0.090  | 0.10   | 150 (130 — 160) |
|     |                                                                                   | 0,200              | 1,0                | 0,00048        | 0,00070 | 0,00095 | 0,0012  | 0,0014  | 0,0019 | 0,0024 | 0,0028 | 0,0036 | 0,0040 | 490 (430 — 520) |
| P5  | E                                                                                 | 0.200              | 1.0                | 0.012          | 0.018   | 0.024   | 0.030   | 0.036   | 0.048  | 0.060  | 0.070  | 0.090  | 0.10   | 140 (130 — 160) |
|     |                                                                                   | 0,200              | 1,0                | 0,00048        | 0,00070 | 0,00095 | 0,0012  | 0,0014  | 0,0019 | 0,0024 | 0,0028 | 0,0036 | 0,0040 | 460 (430 — 520) |
| P6  | E                                                                                 | 0.200              | 1.0                | 0.012          | 0.018   | 0.024   | 0.030   | 0.036   | 0.048  | 0.060  | 0.070  | 0.085  | 0.10   | 160 (140 — 180) |
|     |                                                                                   | 0,200              | 1,0                | 0,00048        | 0,00070 | 0,00095 | 0,0012  | 0,0014  | 0,0019 | 0,0024 | 0,0028 | 0,0034 | 0,0040 | 520 (460 — 590) |
| P7  | E                                                                                 | 0.200              | 1.0                | 0.012          | 0.018   | 0.024   | 0.030   | 0.036   | 0.048  | 0.060  | 0.070  | 0.085  | 0.10   | 150 (130 — 170) |
|     |                                                                                   | 0,200              | 1,0                | 0,00048        | 0,00070 | 0,00095 | 0,0012  | 0,0014  | 0,0019 | 0,0024 | 0,0028 | 0,0034 | 0,0040 | 490 (430 — 550) |
| P8  | E                                                                                 | 0.200              | 1.0                | 0.012          | 0.019   | 0.025   | 0.032   | 0.038   | 0.050  | 0.060  | 0.075  | 0.090  | 0.11   | 140 (130 — 160) |
|     |                                                                                   | 0,200              | 1,0                | 0,00048        | 0,00075 | 0,0010  | 0,0013  | 0,0015  | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0044 | 460 (430 — 520) |
| P11 | E                                                                                 | 0.200              | 1.0                | 0.012          | 0.018   | 0.024   | 0.030   | 0.036   | 0.048  | 0.060  | 0.070  | 0.085  | 0.10   | 145 (130 — 160) |
|     |                                                                                   | 0,200              | 1,0                | 0,00048        | 0,00070 | 0,00095 | 0,0012  | 0,0014  | 0,0019 | 0,0024 | 0,0028 | 0,0034 | 0,0040 | 475 (430 — 520) |
| P12 | E                                                                                 | 0.200              | 1.0                | 0.0080         | 0.012   | 0.016   | 0.020   | 0.024   | 0.032  | 0.040  | 0.048  | 0.060  | 0.070  | 90 (79 — 100)   |
|     |                                                                                   | 0,200              | 1,0                | 0,00032        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0013 | 0,0016 | 0,0019 | 0,0024 | 0,0028 | 295 (260 — 320) |
| M1  | E                                                                                 | 0.200              | 1.0                | 0.015          | 0.024   | 0.030   | 0.038   | 0.046   | 0.060  | 0.075  | 0.090  | 0.11   | 0.13   | 115 (92 — 140)  |
|     |                                                                                   | 0,200              | 1,0                | 0,00060        | 0,00095 | 0,0012  | 0,0015  | 0,0018  | 0,0024 | 0,0030 | 0,0036 | 0,0044 | 0,0050 | 375 (310 — 450) |
| M2  | E                                                                                 | 0.200              | 1.0                | 0.014          | 0.020   | 0.028   | 0.034   | 0.042   | 0.055  | 0.070  | 0.085  | 0.10   | 0.12   | 95 (76 — 110)   |
|     |                                                                                   | 0,200              | 1,0                | 0,00055        | 0,00080 | 0,0011  | 0,0013  | 0,0017  | 0,0022 | 0,0028 | 0,0034 | 0,0040 | 0,0048 | 310 (250 — 360) |
| M3  | E                                                                                 | 0.100              | 1.0                | 0.010          | 0.015   | 0.020   | 0.025   | 0.030   | 0.040  | 0.050  | 0.060  | 0.075  | 0.085  | 75 (56 — 95)    |
|     |                                                                                   | 0,100              | 1,0                | 0,00040        | 0,00060 | 0,00080 | 0,0010  | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 0,0030 | 0,0034 | 245 (190 — 310) |
| M4  | E                                                                                 | 0.100              | 1.0                | 0.0085         | 0.013   | 0.017   | 0.022   | 0.026   | 0.034  | 0.044  | 0.050  | 0.065  | 0.075  | 60 (43 — 73)    |
|     |                                                                                   | 0,100              | 1,0                | 0,00034        | 0,00050 | 0,00065 | 0,00085 | 0,0010  | 0,0013 | 0,0017 | 0,0020 | 0,0026 | 0,0030 | 195 (150 — 230) |
| M5  | E                                                                                 | 0.100              | 1.0                | 0.0085         | 0.013   | 0.017   | 0.022   | 0.026   | 0.034  | 0.044  | 0.050  | 0.065  | 0.075  | 48 (36 — 60)    |
|     |                                                                                   | 0,100              | 1,0                | 0,00034        | 0,00050 | 0,00065 | 0,00085 | 0,0010  | 0,0013 | 0,0017 | 0,0020 | 0,0026 | 0,0030 | 155 (120 — 190) |
| K1  | E                                                                                 | 0.200              | 1.0                | 0.012          | 0.018   | 0.024   | 0.030   | 0.036   | 0.048  | 0.060  | 0.070  | 0.090  | 0.10   | 140 (130 — 160) |
|     |                                                                                   | 0,200              | 1,0                | 0,00048        | 0,00070 | 0,00095 | 0,0012  | 0,0014  | 0,0019 | 0,0024 | 0,0028 | 0,0036 | 0,0040 | 460 (430 — 520) |
| K2  | E                                                                                 | 0.200              | 1.0                | 0.011          | 0.016   | 0.022   | 0.028   | 0.032   | 0.044  | 0.055  | 0.065  | 0.080  | 0.090  | 125 (110 — 140) |
|     |                                                                                   | 0,200              | 1,0                | 0,00044        | 0,00065 | 0,00085 | 0,0011  | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0032 | 0,0036 | 410 (370 — 450) |
| K3  | E                                                                                 | 0.200              | 1.0                | 0.011          | 0.016   | 0.022   | 0.028   | 0.032   | 0.044  | 0.055  | 0.065  | 0.080  | 0.090  | 105 (91 — 120)  |
|     |                                                                                   | 0,200              | 1,0                | 0,00044        | 0,00065 | 0,00085 | 0,0011  | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0032 | 0,0036 | 345 (300 — 390) |
| K4  | E                                                                                 | 0.200              | 1.0                | 0.011          | 0.016   | 0.022   | 0.028   | 0.032   | 0.044  | 0.055  | 0.065  | 0.080  | 0.090  | 100 (87 — 110)  |
|     |                                                                                   | 0,200              | 1,0                | 0,00044        | 0,00065 | 0,00085 | 0,0011  | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0032 | 0,0036 | 330 (290 — 360) |
| K5  | E                                                                                 | 0.200              | 1.0                | 0.010          | 0.015   | 0.020   | 0.025   | 0.030   | 0.040  | 0.050  | 0.060  | 0.070  | 0.085  | 60 (53 — 69)    |
|     |                                                                                   | 0,200              | 1,0                | 0,00040        | 0,00060 | 0,00080 | 0,0010  | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 0,0028 | 0,0034 | 195 (180 — 220) |
| K6  | E                                                                                 | 0.200              | 1.0                | 0.011          | 0.016   | 0.022   | 0.028   | 0.032   | 0.044  | 0.055  | 0.065  | 0.080  | 0.090  | 90 (76 — 100)   |
|     |                                                                                   | 0,200              | 1,0                | 0,00044        | 0,00065 | 0,00085 | 0,0011  | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0032 | 0,0036 | 295 (250 — 320) |
| K7  | E                                                                                 | 0.200              | 1.0                | 0.010          | 0.015   | 0.020   | 0.025   | 0.030   | 0.040  | 0.050  | 0.060  | 0.070  | 0.085  | 80 (67 — 89)    |
|     |                                                                                   | 0,200              | 1,0                | 0,00040        | 0,00060 | 0,00080 | 0,0010  | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 0,0028 | 0,0034 | 260 (220 — 290) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

### Cutting data – J36 Side milling

| SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$             |                   |                   |                   |                  |                  |                  |                  |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|----------------|--------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                |              | 2                 | 3                 | 4                 | 5                 | 6                | 8                | 10               | 12               | 16              | 20              |                                       |
| N1  | E                                                                                 | 0.300<br>0,300 | 1.2<br>1,2   | 0.022<br>0,00085  | 0.032<br>0,0013   | 0.042<br>0,0017   | 0.055<br>0,0022   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.11<br>0,0044   | 0.13<br>0,0050   | 0.16<br>0,0065  | 0.18<br>0,0070  | 650 (540 — 750)<br>2125 (1800 — 2400) |
| N2  | E                                                                                 | 0.300<br>0,300 | 1.2<br>1,2   | 0.022<br>0,00085  | 0.032<br>0,0013   | 0.042<br>0,0017   | 0.055<br>0,0022   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.11<br>0,0044   | 0.13<br>0,0050   | 0.16<br>0,0065  | 0.18<br>0,0070  | 415 (350 — 480)<br>1350 (1200 — 1500) |
| N3  | E                                                                                 | 0.300<br>0,300 | 1.2<br>1,2   | 0.022<br>0,00085  | 0.032<br>0,0013   | 0.042<br>0,0017   | 0.055<br>0,0022   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.11<br>0,0044   | 0.13<br>0,0050   | 0.16<br>0,0065  | 0.18<br>0,0070  | 275 (240 — 320)<br>900 (790 — 1000)   |
| N11 | E                                                                                 | 0.300<br>0,300 | 1.0<br>1,0   | 0.012<br>0,00048  | 0.018<br>0,00070  | 0.024<br>0,00095  | 0.030<br>0,0012   | 0.036<br>0,0014  | 0.048<br>0,0019  | 0.060<br>0,0024  | 0.070<br>0,0028  | 0.090<br>0,0036 | 0.10<br>0,0040  | 305 (260 — 350)<br>1000 (860 — 1100)  |
| S1  | E                                                                                 | 0.120<br>0,120 | 0.90<br>0,90 | 0.0055<br>0,00022 | 0.0080<br>0,00032 | 0.011<br>0,00044  | 0.014<br>0,00055  | 0.016<br>0,00065 | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.046<br>0,0018 | 70 (60 — 83)<br>230 (200 — 270)       |
| S2  | E                                                                                 | 0.120<br>0,120 | 0.90<br>0,90 | 0.0055<br>0,00022 | 0.0080<br>0,00032 | 0.011<br>0,00044  | 0.014<br>0,00055  | 0.016<br>0,00065 | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.046<br>0,0018 | 60 (48 — 67)<br>195 (160 — 210)       |
| S3  | E                                                                                 | 0.120<br>0,120 | 0.90<br>0,90 | 0.0036<br>0,00014 | 0.0055<br>0,00022 | 0.0075<br>0,00030 | 0.0090<br>0,00036 | 0.011<br>0,00044 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.028<br>0,0011 | 0.032<br>0,0013 | 39 (30 — 48)<br>130 (99 — 150)        |
| S11 | E                                                                                 | 0.300<br>0,300 | 1.0<br>0,90  | 0.010<br>0,00040  | 0.015<br>0,00060  | 0.020<br>0,00080  | 0.025<br>0,0010   | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.060<br>0,0024  | 0.075<br>0,0030 | 0.085<br>0,0034 | 100 (89 — 110)<br>330 (300 — 360)     |
| S12 | E                                                                                 | 0.300<br>0,300 | 1.0<br>0,90  | 0.010<br>0,00040  | 0.015<br>0,00060  | 0.020<br>0,00080  | 0.025<br>0,0010   | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.060<br>0,0024  | 0.075<br>0,0030 | 0.085<br>0,0034 | 80 (68 — 87)<br>260 (230 — 280)       |
| S13 | E                                                                                 | 0.300<br>0,300 | 1.0<br>0,90  | 0.0085<br>0,00036 | 0.013<br>0,00050  | 0.017<br>0,00070  | 0.022<br>0,00085  | 0.026<br>0,0010  | 0.034<br>0,0014  | 0.044<br>0,0017  | 0.050<br>0,0020  | 0.065<br>0,0026 | 0.075<br>0,0030 | 60 (54 — 69)<br>195 (180 — 220)       |
| TS1 | A                                                                                 | 0.400<br>0,400 | 1.0<br>1,0   | 0.020<br>0,00080  | 0.030<br>0,0012   | 0.040<br>0,0016   | 0.050<br>0,0020   | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040   | 0.12<br>0,0048   | 0.15<br>0,0060  | 0.17<br>0,0065  | 500 (460 — 550)<br>1650 (1600 — 1800) |
| TP1 | A                                                                                 | 0.400<br>0,400 | 1.0<br>1,0   | 0.020<br>0,00080  | 0.030<br>0,0012   | 0.040<br>0,0016   | 0.050<br>0,0020   | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040   | 0.12<br>0,0048   | 0.15<br>0,0060  | 0.17<br>0,0065  | 500 (460 — 550)<br>1650 (1600 — 1800) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

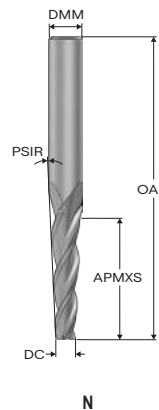
Graphite

X-Heads

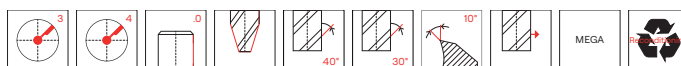
Minimaster

HK

General purpose – Universal – Conical – 3-4 Flutes – Cylindrical – Tapered sharp



—Tolerances:  
—DMM= h5  
—DC= +0,1/0 mm  
—PSIR=  $\pm 0,1^\circ$   
—Regrind possible



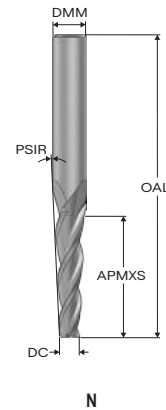
| Designation    | Item number | Length index | Tool shape | DCX  | DC   | DMM  | APMXS | OAL  | PSIR° | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------|------|------|-------|------|-------|-------|-------------|----------------|
| HK020-040-MEGA | 00028666    | 2            | N          | mm   | mm   | mm   | mm    | mm   | 2,0   | 3     | Cylindrical | ■              |
| HK020-050-MEGA | 00028669    | 2            | N          | 8,0  | 5,0  | 8,0  | 30,0  | 75,0 | 2,0   | 3     | Cylindrical | ■              |
| HK020-100-MEGA | 00028694    | 2            | N          | 12,0 | 10,0 | 12,0 | 28,0  | 80,0 | 2,0   | 4     | Cylindrical | ■              |

■ Stocked standard.

For cutting data, please see My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

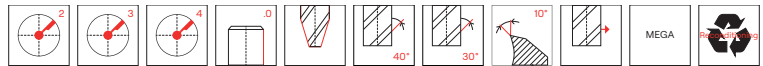
## HKM-HK

General purpose – Universal – Conical – 2-4 Flutes – Cylindrical – Tapered sharp



N

- Tolerances:
- DMM= h5
- DC= HKM= +0,07/+0,03 mm
- DC= HK= +0,1/0 mm
- PSIR=  $\pm 0,1^\circ$
- Regrind possible if DC is  $\geq \phi 6$



| Designation     | Item number | Length index | Tool shape | DCX  | DC  | DMM  | APMXS | OAL   | PSIR° | PCEDC | Shank       | Stock standard |
|-----------------|-------------|--------------|------------|------|-----|------|-------|-------|-------|-------|-------------|----------------|
|                 |             |              |            | mm   | mm  | mm   | mm    | mm    |       |       |             |                |
| HKM030-015-MEGA | 00028738    | 2            | N          | 3,0  | 1,5 | 3,0  | 6,0   | 40,0  | 3,0   | 2     | Cylindrical | ■              |
| HK030-025-MEGA  | 00028741    | 2            | N          | 6,0  | 2,5 | 6,0  | 20,0  | 65,0  | 3,0   | 3     | Cylindrical | ■              |
| HK030-033-MEGA  | 00028744    | 2            | N          | 8,0  | 3,0 | 8,0  | 30,0  | 75,0  | 3,0   | 3     | Cylindrical | ■              |
| HK030-065-MEGA  | 00028759    | 2            | N          | 12,0 | 6,0 | 12,0 | 55,0  | 110,0 | 3,0   | 3     | Cylindrical | ■              |
| HK030-083-MEGA  | 00028771    | 2            | N          | 12,0 | 8,0 | 12,0 | 30,0  | 80,0  | 3,0   | 4     | Cylindrical | ■              |

■ Stocked standard.

For cutting data, please see My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

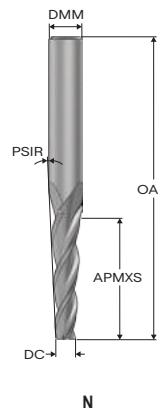
Graphite

X-Heads

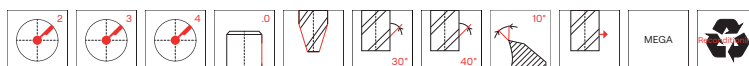
Minimaster

## HKM-HK

General purpose – Universal – Conical – 2-4 Flutes – Cylindrical – Tapered sharp



—Tolerances:  
—DMM= h5  
—DC= HKM= +0,07/+0,03 mm  
—DC= HK= +0,1/0 mm  
—PSIR=  $\pm 0,1^\circ$   
—Regrind possible if DC is  $\geq \varnothing 6$



| Designation     | Item number | Length index | Tool shape | DCX  | DC   | DMM  | APMXS | OAL   | PSIR° | PCEDC | Shank       | Stock standard |
|-----------------|-------------|--------------|------------|------|------|------|-------|-------|-------|-------|-------------|----------------|
|                 |             |              |            | mm   | mm   | mm   | mm    | mm    |       |       |             |                |
| HKM050-010-MEGA | 00028947    | 2            | N          | 3,0  | 1,0  | 3,0  | 4,0   | 40,0  | 5,0   | 2     | Cylindrical | ■              |
| HKM050-015-MEGA | 00028952    | 2            | N          | 3,0  | 1,5  | 3,0  | 6,0   | 40,0  | 5,0   | 2     | Cylindrical | ■              |
| HKM050-020-MEGA | 00028954    | 2            | N          | 4,0  | 2,0  | 4,0  | 10,0  | 50,0  | 5,0   | 2     | Cylindrical | ■              |
| HKM050-025-MEGA | 00028958    | 2            | N          | 5,0  | 2,5  | 5,0  | 10,0  | 50,0  | 5,0   | 2     | Cylindrical | ■              |
| HK050-025-MEGA  | 00028960    | 2            | N          | 6,0  | 2,5  | 6,0  | 20,0  | 65,0  | 5,0   | 3     | Cylindrical | ■              |
| HK050-032-MEGA  | 00028972    | 2            | N          | 8,0  | 3,0  | 8,0  | 28,0  | 70,0  | 5,0   | 3     | Cylindrical | ■              |
| HK050-0420-MEGA | 00028998    | 2            | N          | 8,0  | 4,0  | 8,0  | 22,0  | 65,0  | 5,0   | 3     | Cylindrical | ■              |
| HK050-050-MEGA  | 00029012    | 2            | N          | 12,0 | 5,0  | 12,0 | 40,0  | 100,0 | 5,0   | 3     | Cylindrical | ■              |
| HK050-063-MEGA  | 00029014    | 2            | N          | 12,0 | 6,0  | 12,0 | 32,0  | 90,0  | 5,0   | 3     | Cylindrical | ■              |
| HK050-065-MEGA  | 00029017    | 2            | N          | 16,0 | 6,0  | 16,0 | 55,0  | 110,0 | 5,0   | 3     | Cylindrical | ■              |
| HK050-103-MEGA  | 00029020    | 2            | N          | 16,0 | 10,0 | 16,0 | 32,0  | 90,0  | 5,0   | 4     | Cylindrical | ■              |
| HK050-105-MEGA  | 00029025    | 2            | N          | 20,0 | 10,0 | 20,0 | 55,0  | 115,0 | 5,0   | 4     | Cylindrical | ■              |

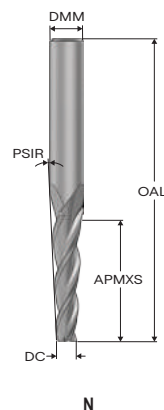
■ Stocked standard.

For cutting data, please see My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

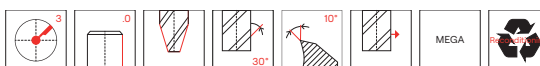


HK

General purpose – Universal – Conical – 3 Flutes – Cylindrical – Tapered sharp



- Tolerances:
- DMM= h5
- DC= +0,1/0 mm
- PSIR=  $\pm 0,1^\circ$
- Regrind possible



| Designation    | Item number | Length index | Tool shape | DCX  | DC  | DMM  | APMXS | OAL  | PSIR° | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------|-----|------|-------|------|-------|-------|-------------|----------------|
| HK070-025-MEGA | 00029030    | 2            | N          | mm   | mm  | mm   | mm    | mm   | 7,0   | 3     | Cylindrical | ■              |
| HK070-050-MEGA | 00029034    | 2            | N          | 12,0 | 5,0 | 12,0 | 28,0  | 80,0 | 7,0   | 3     | Cylindrical | ■              |

■ Stocked standard.

For cutting data, please see My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

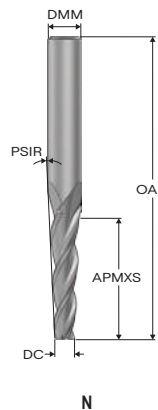
Graphite

X-Heads

Minimaster

HK

General purpose – Universal – Conical – 4 Flutes – Cylindrical – Tapered sharp



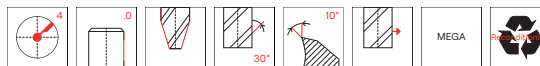
—Tolerances:

—DMM= h5

—DC= +0,1/0 mm

—PSIR= ±0,1°

—Regrind possible



| Designation    | Item number | Length index | Tool shape | DCX        | DC        | DMM        | APMXS      | OAL        | PSIR° | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------------|-----------|------------|------------|------------|-------|-------|-------------|----------------|
| HK080-083-MEGA | 00029041    | 2            | N          | mm<br>18,0 | mm<br>8,0 | mm<br>18,0 | mm<br>35,0 | mm<br>90,0 | 8,0   | 4     | Cylindrical | ■              |

■ Stocked standard.

For cutting data, please see My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

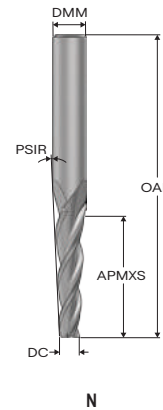
Graphite

X-Heads

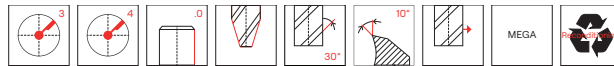
Minimaster

HK

General purpose – Universal – Conical – 3-4 Flutes – Cylindrical – Tapered sharp



- Tolerances:
- DMM= h5
- DC= +0,1/0 mm
- PSIR=  $\pm 0,1^\circ$
- Regrind possible



| Designation    | Item number | Length index | Tool shape | DCX  | DC  | DMM  | APMXS | OAL  | PSIR° | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------|-----|------|-------|------|-------|-------|-------------|----------------|
| HK100-025-MEGA | 00029052    | 2            | N          | mm   | mm  | mm   | mm    | mm   | 10,0  | 3     | Cylindrical | ■              |
| HK100-030-MEGA | 00029066    | 2            | N          | 14,0 | 3,0 | 14,0 | 30,0  | 90,0 | 10,0  | 3     | Cylindrical | ■              |
| HK100-050-MEGA | 00029069    | 2            | N          | 16,0 | 5,0 | 16,0 | 30,0  | 90,0 | 10,0  | 3     | Cylindrical | ■              |
| HK100-080-MEGA | 00029083    | 2            | N          | 20,0 | 8,0 | 20,0 | 32,0  | 90,0 | 10,0  | 4     | Cylindrical | ■              |

■ Stocked standard.

For cutting data, please see My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

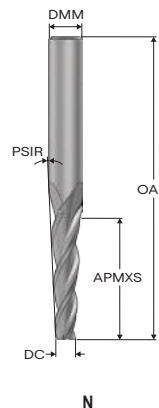
Graphite

X-Heads

Minimaster

HK

General purpose – Universal – Conical – 3 Flutes – Cylindrical – Tapered sharp



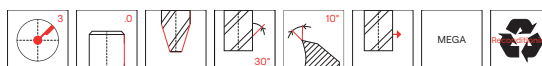
—Tolerances:

—DMM= h5

—DC= +0,1/0 mm

—PSIR= ±0,1°

—Regrind possible



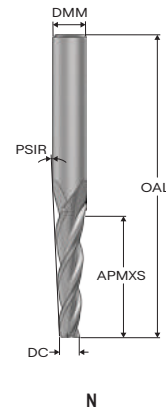
| Designation    | Item number | Length index | Tool shape | DCX  | DC  | DMM  | APMXS | OAL  | PSIR° | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------|-----|------|-------|------|-------|-------|-------------|----------------|
| HK110-020-MEGA | 00029110    | 2            | N          | mm   | mm  | mm   | mm    | mm   | 11,0  | 3     | Cylindrical | ■              |
| HK110-050-MEGA | 00029117    | 2            | N          | 14,0 | 5,0 | 14,0 | 20,0  | 80,0 | 11,0  | 3     | Cylindrical | ■              |

■ Stocked standard.

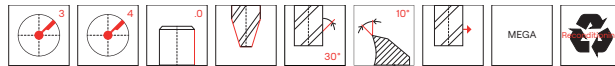
For cutting data, please see My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

HK

General purpose – Universal – Conical – 3-4 Flutes – Cylindrical – Tapered sharp



- Tolerances:
- DMM= h5
- DC= +0,1/0 mm
- PSIR=  $\pm 0,1^\circ$
- Regrind possible



| Designation     | Item number | Length index | Tool shape | DCX  | DC  | DMM  | APMXS | OAL  | PSIR° | PCEDC | Shank       | Stock standard |
|-----------------|-------------|--------------|------------|------|-----|------|-------|------|-------|-------|-------------|----------------|
| HK150-025       | 00029119    | 2            | N          | mm   | mm  | mm   | mm    | mm   | 15,0  | 3     | Cylindrical | ■              |
| HK150-025-MEGA  | 00029151    | 2            | N          | 14,0 | 2,5 | 14,0 | 20,0  | 80,0 | 15,0  | 3     | Cylindrical | ■              |
| HK150-040       | 00029124    | 2            | N          | 12,0 | 4,0 | 12,0 | 15,0  | 65,0 | 15,0  | 3     | Cylindrical | ■              |
| HK150-040-MEGA  | 00029154    | 2            | N          | 12,0 | 4,0 | 12,0 | 15,0  | 65,0 | 15,0  | 3     | Cylindrical | ■              |
| HK150-0651      | 00029133    | 2            | N          | 12,0 | 6,5 | 12,0 | 10,0  | 65,0 | 15,0  | 3     | Cylindrical | ■              |
| HK150-0651-MEGA | 00029160    | 2            | N          | 12,0 | 6,5 | 12,0 | 10,0  | 65,0 | 15,0  | 3     | Cylindrical | ■              |
| HK150-0652      | 00029138    | 2            | N          | 20,0 | 6,5 | 20,0 | 25,0  | 90,0 | 15,0  | 3     | Cylindrical | ■              |
| HK150-0652-MEGA | 00029161    | 2            | N          | 20,0 | 6,5 | 20,0 | 25,0  | 90,0 | 15,0  | 3     | Cylindrical | ■              |
| HK150-080       | 00029149    | 2            | N          | 20,0 | 8,0 | 20,0 | 20,0  | 80,0 | 15,0  | 4     | Cylindrical | ■              |
| HK150-080-MEGA  | 00029162    | 2            | N          | 20,0 | 8,0 | 20,0 | 20,0  | 80,0 | 15,0  | 4     | Cylindrical | ■              |

■ Stocked standard.

For cutting data, please see My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

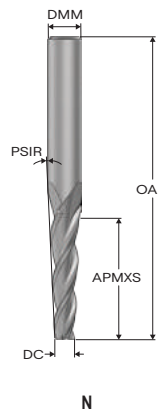
Graphite

X-Heads

Minimaster

HK

General purpose – Universal – Conical – 3-4 Flutes – Cylindrical – Tapered sharp



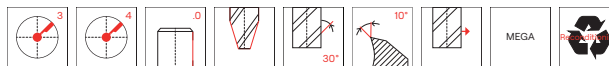
—Tolerances:

—DMM= h5

—DC= +0,1/0 mm

—PSIR= ±0,1°

—Regrind possible



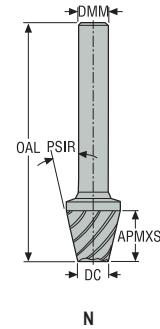
| Designation    | Item number | Length index | Tool shape | DCX  | DC  | DMM  | APMXS | OAL  | PSIR° | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------|-----|------|-------|------|-------|-------|-------------|----------------|
| HK200-025      | 00029165    | 2            | N          | mm   | mm  | mm   | mm    | mm   | 20,0  | 3     | Cylindrical | ■              |
| HK200-025-MEGA | 00029168    | 2            | N          | 10,0 | 2,5 | 10,0 | 10,0  | 75,0 | 20,0  | 3     | Cylindrical | ■              |
| HK200-045      | 00029166    | 2            | N          | 16,0 | 4,5 | 16,0 | 15,0  | 90,0 | 20,0  | 4     | Cylindrical | ■              |
| HK200-045-MEGA | 00029203    | 2            | N          | 16,0 | 4,5 | 16,0 | 15,0  | 90,0 | 20,0  | 4     | Cylindrical | ■              |

■ Stocked standard.

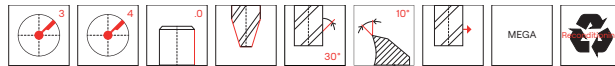
For cutting data, please see My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

HK

General purpose – Universal – Conical – 3-4 Flutes – Cylindrical – Tapered sharp



- Tolerances:
- DMM= h5
- DC= +0,1/0 mm
- PSIR=  $\pm 0,1^\circ$
- Regrind possible



| Designation    | Item number | Length index | Tool shape | DCX  | DC  | DMM  | APMXS | OAL  | PSIR° | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------|-----|------|-------|------|-------|-------|-------------|----------------|
| HK300-025      | 00029208    | 2            | N          | mm   | mm  | mm   | mm    | mm   |       |       |             |                |
| HK300-025-MEGA | 00029211    | 2            | N          | 14,5 | 2,5 | 10,0 | 10,0  | 75,0 | 30,0  | 3     | Cylindrical | ■              |
| HK300-045      | 00029210    | 2            | N          | 23,5 | 4,5 | 16,0 | 16,0  | 90,0 | 30,0  | 4     | Cylindrical | ■              |
| HK300-045-MEGA | 00029212    | 2            | N          | 23,5 | 4,5 | 16,0 | 16,0  | 90,0 | 30,0  | 4     | Cylindrical | ■              |

■ Stocked standard.

For cutting data, please see My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

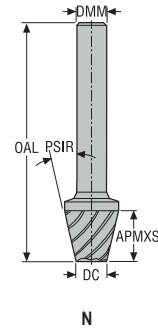
Graphite

X-Heads

Minimaster

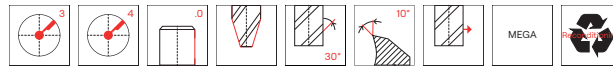
HK

General purpose – Universal – Conical – 3-4 Flutes – Cylindrical – Tapered sharp



N

—Tolerances:  
—DMM= h5  
—DC= +0,1/0 mm  
—PSIR=  $\pm 0,1^\circ$   
—Regrind possible



| Designation    | Item number | Length index | Tool shape | DCX  | DC  | DMM  | APMXS | OAL  | PSIR° | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------|-----|------|-------|------|-------|-------|-------------|----------------|
| HK450-025      | 00029215    | 2            | N          | mm   | mm  | mm   | mm    | mm   | 45,0  | 3     | Cylindrical | ■              |
| HK450-025-MEGA | 00029229    | 2            | N          | 23,0 | 2,5 | 12,0 | 10,0  | 75,0 | 45,0  | 3     | Cylindrical | ■              |
| HK450-045      | 00029217    | 2            | N          | 37,0 | 4,5 | 16,0 | 16,0  | 90,0 | 45,0  | 4     | Cylindrical | ■              |
| HK450-045-MEGA | 00029232    | 2            | N          | 37,0 | 4,5 | 16,0 | 16,0  | 90,0 | 45,0  | 4     | Cylindrical | ■              |

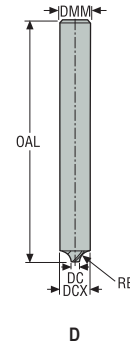
■ Stocked standard.

For cutting data, please see My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

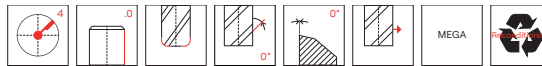


V31

General purpose – Universal – Concave – 4 Flutes – Cylindrical



—Tolerances:  
—DMM= h5  
—DC=  $\pm 0,04$  mm  
—RE=  $\pm 0,02$  mm  
—Regrind possible



| Designation | Item number | Length index | Tool shape | DCX  | DC  | DMM  | APMXS | OAL  | RE   | PCEDC | Shank       | Stock standard |
|-------------|-------------|--------------|------------|------|-----|------|-------|------|------|-------|-------------|----------------|
|             |             |              |            | mm   | mm  | mm   | mm    | mm   | mm   |       |             |                |
| 31100-MEGA  | 00029307    | 2            | D          | 6,0  | 4,0 | 6,0  | 1,0   | 64,0 | 1,0  | 4     | Cylindrical | ■              |
| 31200-MEGA  | 00029315    | 2            | D          | 8,0  | 4,0 | 8,0  | 2,0   | 75,0 | 2,0  | 4     | Cylindrical | ■              |
| 31300-MEGA  | 00029326    | 2            | D          | 10,0 | 4,0 | 10,0 | 3,0   | 75,0 | 3,0  | 4     | Cylindrical | ■              |
| 31400-MEGA  | 00029328    | 2            | D          | 12,0 | 4,0 | 12,0 | 4,0   | 75,0 | 4,0  | 4     | Cylindrical | ■              |
| 31050-MEGA  | 00029285    | 2            | D          | 6,0  | 5,0 | 6,0  | 0,5   | 64,0 | 0,5  | 4     | Cylindrical | ■              |
| 31150-MEGA  | 00029313    | 2            | D          | 8,0  | 5,0 | 8,0  | 1,5   | 75,0 | 1,5  | 4     | Cylindrical | ■              |
| 31250-MEGA  | 00029324    | 2            | D          | 10,0 | 5,0 | 10,0 | 2,5   | 75,0 | 2,5  | 4     | Cylindrical | ■              |
| 31350-MEGA  | 00029327    | 2            | D          | 12,0 | 5,0 | 12,0 | 3,5   | 75,0 | 3,5  | 4     | Cylindrical | ■              |
| 31500-MEGA  | 00029330    | 2            | D          | 16,0 | 6,0 | 16,0 | 5,0   | 75,0 | 5,0  | 4     | Cylindrical | ■              |
| 31600-MEGA  | 00029331    | 2            | D          | 20,0 | 8,0 | 20,0 | 6,0   | 80,0 | 6,0  | 4     | Cylindrical | ■              |
| 31999-MEGA  | 00029335    | 2            | D          | 28,0 | 8,0 | 25,0 | 10,0  | 80,0 | 10,0 | 4     | Cylindrical | ■              |
| 31800-MEGA  | 00029333    | 2            | D          | 25,0 | 9,0 | 25,0 | 8,0   | 75,0 | 8,0  | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – V31 Side milling roughing

| SMG |       | a <sub>p</sub> /DC | f <sub>z</sub> |         |        |        |        |        |        |        | v <sub>c</sub>   |
|-----|-------|--------------------|----------------|---------|--------|--------|--------|--------|--------|--------|------------------|
|     |       |                    | 6              | 8       | 10     | 12     | 16     | 20     | 25     | 28     |                  |
| P1  | E/M/A | 0,24               | 0,024          | 0,032   | 0,040  | 0,048  | 0,065  | 0,080  | 0,095  | 0,10   | 290 (195 — 310)  |
|     |       | 0,24               | 0,00095        | 0,0013  | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,004  | 950 (640 — 1100) |
| P2  | E/M/A | 0,24               | 0,024          | 0,034   | 0,042  | 0,050  | 0,065  | 0,080  | 0,095  | 0,10   | 280 (190 — 305)  |
|     |       | 0,24               | 0,00095        | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0032 | 0,0038 | 0,004  | 910 (620 — 1000) |
| P3  | E/M/A | 0,24               | 0,024          | 0,032   | 0,040  | 0,046  | 0,060  | 0,075  | 0,090  | 0,095  | 240 (165 — 260)  |
|     |       | 0,24               | 0,00095        | 0,0013  | 0,0016 | 0,0018 | 0,0024 | 0,003  | 0,0036 | 0,0038 | 790 (540 — 850)  |
| P4  | E/M/A | 0,24               | 0,022          | 0,030   | 0,038  | 0,046  | 0,060  | 0,075  | 0,090  | 0,095  | 210 (145 — 230)  |
|     |       | 0,24               | 0,00085        | 0,0012  | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0036 | 0,0038 | 680 (475 — 760)  |
| P5  | E/M/A | 0,24               | 0,022          | 0,030   | 0,038  | 0,046  | 0,060  | 0,075  | 0,085  | 0,095  | 205 (135 — 220)  |
|     |       | 0,24               | 0,00085        | 0,0012  | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0034 | 0,0038 | 670 (445 — 730)  |
| P6  | E/M/A | 0,24               | 0,022          | 0,030   | 0,038  | 0,044  | 0,060  | 0,075  | 0,085  | 0,095  | 230 (155 — 245)  |
|     |       | 0,24               | 0,00085        | 0,0012  | 0,0015 | 0,0017 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 760 (510 — 800)  |
| P7  | E/M/A | 0,24               | 0,022          | 0,030   | 0,038  | 0,044  | 0,060  | 0,075  | 0,085  | 0,095  | 215 (145 — 230)  |
|     |       | 0,24               | 0,00085        | 0,0012  | 0,0015 | 0,0017 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 710 (475 — 760)  |
| P8  | E/M/A | 0,24               | 0,024          | 0,032   | 0,040  | 0,046  | 0,060  | 0,075  | 0,090  | 0,095  | 205 (140 — 220)  |
|     |       | 0,24               | 0,00095        | 0,0013  | 0,0016 | 0,0018 | 0,0024 | 0,003  | 0,0036 | 0,0038 | 670 (460 — 730)  |
| P11 | E/M/A | 0,24               | 0,022          | 0,030   | 0,038  | 0,044  | 0,060  | 0,075  | 0,085  | 0,095  | 210 (140 — 225)  |
|     |       | 0,24               | 0,00085        | 0,0012  | 0,0015 | 0,0017 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 680 (460 — 740)  |
| M1  | E/M/A | 0,24               | 0,024          | 0,034   | 0,042  | 0,050  | 0,065  | 0,080  | 0,095  | 0,10   | 255 (170 — 270)  |
|     |       | 0,24               | 0,00095        | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0032 | 0,0038 | 0,004  | 840 (560 — 890)  |
| M2  | E/M/A | 0,24               | 0,022          | 0,030   | 0,038  | 0,046  | 0,060  | 0,075  | 0,085  | 0,095  | 205 (135 — 220)  |
|     |       | 0,24               | 0,00085        | 0,0012  | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 670 (445 — 730)  |
| M3  | E/M/A | 0,24               | 0,018          | 0,024   | 0,030  | 0,036  | 0,048  | 0,060  | 0,070  | 0,075  | 150 (105 — 165)  |
|     |       | 0,24               | 0,0007         | 0,00095 | 0,0012 | 0,0014 | 0,0019 | 0,0024 | 0,0028 | 0,003  | 490 (345 — 540)  |
| M4  | E/M/A | 0,24               | 0,016          | 0,020   | 0,026  | 0,032  | 0,042  | 0,050  | 0,060  | 0,065  | 110 (75 — 120)   |
|     |       | 0,24               | 0,00065        | 0,0008  | 0,0010 | 0,0013 | 0,0017 | 0,0022 | 0,0024 | 0,0026 | 360 (250 — 400)  |
| M5  | E/M/A | 0,24               | 0,016          | 0,020   | 0,026  | 0,032  | 0,042  | 0,050  | 0,060  | 0,065  | 95 (65 — 100)    |
|     |       | 0,24               | 0,00065        | 0,0008  | 0,0010 | 0,0013 | 0,0017 | 0,0022 | 0,0024 | 0,0026 | 310 (220 — 320)  |
| K1  | E/M/A | 0,24               | 0,022          | 0,030   | 0,038  | 0,046  | 0,060  | 0,075  | 0,085  | 0,095  | 205 (135 — 220)  |
|     |       | 0,24               | 0,00085        | 0,0012  | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 670 (445 — 730)  |
| K2  | E/M/A | 0,24               | 0,020          | 0,028   | 0,034  | 0,040  | 0,055  | 0,065  | 0,080  | 0,085  | 175 (120 — 190)  |
|     |       | 0,24               | 0,0008         | 0,0011  | 0,0013 | 0,0016 | 0,0022 | 0,0026 | 0,0032 | 0,0050 | 570 (400 — 620)  |
| K3  | E/M/A | 0,24               | 0,020          | 0,028   | 0,034  | 0,040  | 0,055  | 0,065  | 0,080  | 0,085  | 150 (100 — 160)  |
|     |       | 0,24               | 0,0008         | 0,0011  | 0,0013 | 0,0016 | 0,0022 | 0,0026 | 0,0032 | 0,0050 | 490 (320 — 530)  |
| K4  | E/M/A | 0,24               | 0,020          | 0,028   | 0,034  | 0,040  | 0,055  | 0,065  | 0,080  | 0,085  | 140 (95 — 150)   |
|     |       | 0,24               | 0,0008         | 0,0011  | 0,0013 | 0,0016 | 0,0022 | 0,0026 | 0,0032 | 0,0050 | 460 (310 — 490)  |
| K5  | E/M/A | 0,24               | 0,018          | 0,024   | 0,030  | 0,036  | 0,050  | 0,060  | 0,070  | 0,075  | 85 (55 — 90)     |
|     |       | 0,24               | 0,0007         | 0,00095 | 0,0012 | 0,0014 | 0,0022 | 0,0024 | 0,0028 | 0,003  | 280 (180 — 300)  |
| K6  | E/M/A | 0,24               | 0,020          | 0,028   | 0,034  | 0,040  | 0,055  | 0,065  | 0,080  | 0,085  | 125 (85 — 135)   |
|     |       | 0,24               | 0,0008         | 0,0011  | 0,0013 | 0,0016 | 0,0022 | 0,0026 | 0,0032 | 0,0050 | 410 (280 — 445)  |
| K7  | E/M/A | 0,24               | 0,018          | 0,024   | 0,030  | 0,036  | 0,050  | 0,060  | 0,070  | 0,075  | 105 (70 — 115)   |
|     |       | 0,24               | 0,0007         | 0,00095 | 0,0012 | 0,0014 | 0,0022 | 0,0024 | 0,0028 | 0,003  | 345 (220 — 375)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
v<sub>c</sub> = m/min (sf/min)  
f<sub>z</sub> = mm (in/tooth)  
a<sub>p</sub> = mm/DC (in/DC) = factor  
a<sub>e</sub> = mm/DC (in/DC) = factor  
All cutting data are target values

## Cutting data – V31 Side milling roughing

| SMG |       | a <sub>p</sub> /DC | f <sub>z</sub> |        |        |        |        |        |        |        | v <sub>c</sub>    |
|-----|-------|--------------------|----------------|--------|--------|--------|--------|--------|--------|--------|-------------------|
|     |       |                    | 6              | 8      | 10     | 12     | 16     | 20     | 25     | 28     |                   |
| N1  | E/M/A | 0,24               | 0,022          | 0,030  | 0,038  | 0,046  | 0,060  | 0,075  | 0,085  | 0,095  | 315 (215 — 340)   |
|     |       | 0,24               | 0,00085        | 0,0012 | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 1025 (710 — 1125) |
| N2  | E/M/A | 0,24               | 0,022          | 0,030  | 0,038  | 0,046  | 0,060  | 0,075  | 0,085  | 0,095  | 205 (135 — 220)   |
|     |       | 0,24               | 0,00085        | 0,0012 | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 670 (445 — 730)   |
| N3  | E/M/A | 0,24               | 0,022          | 0,030  | 0,038  | 0,046  | 0,060  | 0,075  | 0,085  | 0,095  | 135 (90 — 145)    |
|     |       | 0,24               | 0,00085        | 0,0012 | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 445 (300 — 475)   |
| N11 | E/M/A | 0,24               | 0,022          | 0,030  | 0,038  | 0,046  | 0,060  | 0,075  | 0,085  | 0,095  | 205 (135 — 220)   |
|     |       | 0,24               | 0,00085        | 0,0012 | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 670 (445 — 730)   |
| S1  | E/M/A | 0,24               | 0,024          | 0,032  | 0,040  | 0,048  | 0,065  | 0,080  | 0,095  | 0,10   | 205 (140 — 220)   |
|     |       | 0,24               | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,004  | 670 (460 — 730)   |
| S2  | E/M/A | 0,24               | 0,024          | 0,032  | 0,040  | 0,048  | 0,065  | 0,080  | 0,095  | 0,10   | 205 (140 — 220)   |
|     |       | 0,24               | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,004  | 670 (460 — 730)   |
| S3  | E/M/A | 0,24               | 0,022          | 0,030  | 0,038  | 0,046  | 0,060  | 0,075  | 0,085  | 0,095  | 205 (135 — 220)   |
|     |       | 0,24               | 0,00085        | 0,0012 | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 670 (445 — 730)   |
| S11 | E/M/A | 0,24               | 0,022          | 0,030  | 0,038  | 0,046  | 0,060  | 0,075  | 0,085  | 0,095  | 265 (180 — 285)   |
|     |       | 0,24               | 0,00085        | 0,0012 | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 870 (590 — 940)   |
| S12 | E/M/A | 0,24               | 0,022          | 0,030  | 0,038  | 0,046  | 0,060  | 0,075  | 0,085  | 0,095  | 205 (135 — 220)   |
|     |       | 0,24               | 0,00085        | 0,0012 | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 670 (445 — 730)   |
| S13 | E/M/A | 0,24               | 0,020          | 0,026  | 0,032  | 0,040  | 0,050  | 0,065  | 0,075  | 0,080  | 155 (105 — 165)   |
|     |       | 0,24               | 0,0008         | 0,0010 | 0,0013 | 0,0016 | 0,0022 | 0,0026 | 0,003  | 0,0032 | 510 (345 — 540)   |
| H5  | M/A   | 0,24               | 0,034          | 0,046  | 0,055  | 0,070  | 0,090  | 0,11   | 0,13   | 0,14   | 275 (185 — 295)   |
|     |       | 0,24               | 0,0013         | 0,0018 | 0,0022 | 0,0028 | 0,0036 | 0,0044 | 0,0050 | 0,0055 | 900 (610 — 950)   |
| H8  | M/A   | 0,24               | 0,026          | 0,034  | 0,044  | 0,050  | 0,070  | 0,085  | 0,10   | 0,11   | 270 (185 — 290)   |
|     |       | 0,24               | 0,0010         | 0,0013 | 0,0017 | 0,0022 | 0,0028 | 0,0036 | 0,004  | 0,0044 | 890 (610 — 950)   |
| H21 | M/A   | 0,24               | 0,026          | 0,034  | 0,044  | 0,050  | 0,070  | 0,085  | 0,10   | 0,11   | 270 (185 — 290)   |
|     |       | 0,24               | 0,0010         | 0,0013 | 0,0017 | 0,0022 | 0,0028 | 0,0036 | 0,004  | 0,0044 | 890 (610 — 950)   |
| H31 | M/A   | 0,24               | 0,022          | 0,030  | 0,038  | 0,046  | 0,060  | 0,075  | 0,085  | 0,095  | 205 (135 — 220)   |
|     |       | 0,24               | 0,00085        | 0,0012 | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 670 (445 — 730)   |
| TS1 | A/D   | 0,24               | 0,022          | 0,030  | 0,038  | 0,046  | 0,060  | 0,075  | 0,085  | 0,095  | 205 (135 — 220)   |
|     |       | 0,24               | 0,00085        | 0,0012 | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 670 (445 — 730)   |
| TP1 | A/D   | 0,24               | 0,022          | 0,030  | 0,038  | 0,046  | 0,060  | 0,075  | 0,085  | 0,095  | 205 (135 — 220)   |
|     |       | 0,24               | 0,00085        | 0,0012 | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 670 (445 — 730)   |
| GR1 | A/D   | 0,24               | 0,022          | 0,030  | 0,038  | 0,046  | 0,060  | 0,075  | 0,085  | 0,095  | 205 (135 — 220)   |
|     |       | 0,24               | 0,00085        | 0,0012 | 0,0015 | 0,0018 | 0,0024 | 0,003  | 0,0050 | 0,0038 | 670 (445 — 730)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and CFRP

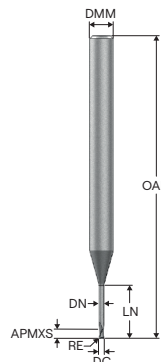
Graphite

X-Heads

Minimaster

## JME542

Miniature – Universal – Square – 2 Flutes – DMM 4 – Cylindrical – Sharp or corner radius



G

—Tolerances:

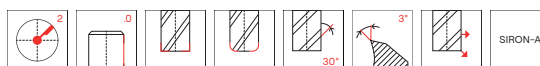
—Run-out= &lt;0,007 mm

—DMM= h5

—DC= Ø0,2-Ø0,4= 0,-0,01 mm

—DC= Ø0,5-Ø3,0= 0,-0,013 mm

—RE= ±0,005 mm



| Designation              | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°   | PCEDC | Shank       | Stock standard |
|--------------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|-------|-------|-------------|----------------|
|                          |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm   |       |       |             |                |
| JME542002G1S.0Z2-SIRA    | 03171095    | 1            | G          | 0,2 | 4,0 | 0,3   | 45,0 | 0,4  | 0,18 | —    | 14,41 | 2     | Cylindrical | ■              |
| JME542003G1S.0Z2-SIRA    | 03171096    | 1            | G          | 0,3 | 4,0 | 0,45  | 45,0 | 0,6  | 0,28 | —    | 14,0  | 2     | Cylindrical | ■              |
| JME542004G1S.0Z2-SIRA    | 03171128    | 1            | G          | 0,4 | 4,0 | 0,6   | 45,0 | 0,8  | 0,37 | —    | 13,5  | 2     | Cylindrical | ■              |
| JME542005G1R005.0Z2-SIRA | 03171097    | 1            | G          | 0,5 | 4,0 | 0,8   | 45,0 | 1,0  | 0,46 | 0,05 | 13,17 | 2     | Cylindrical | ■              |
| JME542006G1R005.0Z2-SIRA | 03171098    | 1            | G          | 0,6 | 4,0 | 0,9   | 45,0 | 1,2  | 0,56 | 0,05 | 12,76 | 2     | Cylindrical | ■              |
| JME542008G1R005.0Z2-SIRA | 03171129    | 1            | G          | 0,8 | 4,0 | 1,2   | 45,0 | 1,6  | 0,76 | 0,05 | 11,96 | 2     | Cylindrical | ■              |
| JME542010G1R010.0Z2-SIRA | 03171099    | 1            | G          | 1,0 | 4,0 | 1,5   | 50,0 | 2,0  | 0,95 | 0,1  | 11,22 | 2     | Cylindrical | ■              |
| JME542012G1R010.0Z2-SIRA | 03171100    | 1            | G          | 1,2 | 4,0 | 1,8   | 50,0 | 2,4  | 1,15 | 0,1  | 10,43 | 2     | Cylindrical | ■              |
| JME542015G1R015.0Z2-SIRA | 03171130    | 1            | G          | 1,5 | 4,0 | 2,3   | 50,0 | 3,0  | 1,45 | 0,15 | 9,2   | 2     | Cylindrical | ■              |
| JME542005G3R005.0Z2-SIRA | 03171102    | 3            | G          | 0,5 | 4,0 | 0,8   | 45,0 | 2,5  | 0,46 | 0,05 | 11,03 | 2     | Cylindrical | ■              |
| JME542006G3R005.0Z2-SIRA | 03171103    | 3            | G          | 0,6 | 4,0 | 0,9   | 45,0 | 3,0  | 0,56 | 0,05 | 10,36 | 2     | Cylindrical | ■              |
| JME542008G3R005.0Z2-SIRA | 03171131    | 3            | G          | 0,8 | 4,0 | 1,2   | 45,0 | 4,0  | 0,76 | 0,05 | 9,14  | 2     | Cylindrical | ■              |
| JME542010G3R010.0Z2-SIRA | 03171104    | 3            | G          | 1,0 | 4,0 | 1,5   | 50,0 | 5,0  | 0,95 | 0,1  | 8,09  | 2     | Cylindrical | ■              |
| JME542012G3R010.0Z2-SIRA | 03171105    | 3            | G          | 1,2 | 4,0 | 1,8   | 50,0 | 6,0  | 1,15 | 0,1  | 7,13  | 2     | Cylindrical | ■              |
| JME542015G3R015.0Z2-SIRA | 03171132    | 3            | G          | 1,5 | 4,0 | 2,3   | 50,0 | 7,5  | 1,45 | 0,15 | 5,89  | 2     | Cylindrical | ■              |
| JME542020G3R015.0Z2-SIRA | 03171106    | 3            | G          | 2,0 | 4,0 | 3,0   | 50,0 | 10,0 | 1,94 | 0,15 | 4,14  | 2     | Cylindrical | ■              |
| JME542025G3R015.0Z2-SIRA | 03171108    | 3            | G          | 2,5 | 4,0 | 3,8   | 50,0 | 12,5 | 2,4  | 0,15 | 2,79  | 2     | Cylindrical | ■              |
| JME542030G3R015.0Z2-SIRA | 03171134    | 3            | G          | 3,0 | 4,0 | 4,5   | 60,0 | 15,0 | 2,85 | 0,15 | 1,67  | 2     | Cylindrical | ■              |
| JME542005G4R005.0Z2-SIRA | 03171109    | 4            | G          | 0,5 | 4,0 | 0,8   | 45,0 | 4,0  | 0,46 | 0,05 | 9,49  | 2     | Cylindrical | ■              |
| JME542006G4R005.0Z2-SIRA | 03171110    | 4            | G          | 0,6 | 4,0 | 0,9   | 45,0 | 5,0  | 0,56 | 0,05 | 8,56  | 2     | Cylindrical | ■              |
| JME542008G4R005.0Z2-SIRA | 03171135    | 4            | G          | 0,8 | 4,0 | 1,2   | 45,0 | 7,0  | 0,76 | 0,05 | 7,05  | 2     | Cylindrical | ■              |
| JME542010G4R010.0Z2-SIRA | 03171111    | 4            | G          | 1,0 | 4,0 | 1,5   | 50,0 | 8,5  | 0,95 | 0,1  | 6,1   | 2     | Cylindrical | ■              |
| JME542012G4R010.0Z2-SIRA | 03171112    | 4            | G          | 1,2 | 4,0 | 1,8   | 50,0 | 10,0 | 1,15 | 0,1  | 5,27  | 2     | Cylindrical | ■              |
| JME542015G4R015.0Z2-SIRA | 03171136    | 4            | G          | 1,5 | 4,0 | 2,3   | 50,0 | 12,0 | 1,45 | 0,15 | 4,29  | 2     | Cylindrical | ■              |
| JME542020G4R015.0Z2-SIRA | 03171113    | 4            | G          | 2,0 | 4,0 | 3,0   | 60,0 | 16,0 | 1,94 | 0,15 | 2,9   | 2     | Cylindrical | ■              |
| JME542030G4R015.0Z2-SIRA | 03171137    | 4            | G          | 3,0 | 4,0 | 4,5   | 70,0 | 24,0 | 2,85 | 0,15 | 1,1   | 2     | Cylindrical | ■              |
| JME542015G5R015.0Z2-SIRA | 03171115    | 5            | G          | 1,5 | 4,0 | 2,3   | 60,0 | 15,0 | 1,45 | 0,15 | 3,64  | 2     | Cylindrical | ■              |
| JME542020G5R015.0Z2-SIRA | 03171116    | 5            | G          | 2,0 | 4,0 | 3,0   | 60,0 | 20,0 | 1,94 | 0,15 | 2,41  | 2     | Cylindrical | ■              |
| JME542030G5R015.0Z2-SIRA | 03171117    | 5            | G          | 3,0 | 4,0 | 4,5   | 70,0 | 30,0 | 2,85 | 0,15 | 0,9   | 2     | Cylindrical | ■              |
| JME542015G6R015.0Z2-SIRA | 03171118    | 6            | G          | 1,5 | 4,0 | 2,3   | 70,0 | 22,5 | 1,45 | 0,15 | 2,64  | 2     | Cylindrical | ■              |
| JME542020G6R015.0Z2-SIRA | 03171139    | 6            | G          | 2,0 | 4,0 | 3,0   | 70,0 | 30,0 | 1,94 | 0,15 | 1,7   | 2     | Cylindrical | ■              |
| JME542030G6R015.0Z2-SIRA | 03171120    | 6            | G          | 3,0 | 4,0 | 4,5   | 90,0 | 45,0 | 2,85 | 0,15 | 0,61  | 2     | Cylindrical | ■              |

■ Stocked standard.

## Cutting data – JME542 Side milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                   |                   |                   |                  |                  |                  |                  |                 |                 |                 | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                    |                    | 0.2               | 0.3               | 0.4               | 0.5               | 0.6               | 0.8              | 1.0              | 1.2              | 1.8              | 2.0             | 2.5             | 3.0             |                                       |
| P1  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 415 (370 — 460)<br>1350 (1300 — 1500) |
| P2  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 405 (360 — 440)<br>1325 (1200 — 1400) |
| P3  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 350 (310 — 380)<br>1150 (1100 — 1200) |
| P4  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 305 (280 — 340)<br>1000 (920 — 1100)  |
| P5  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 290 (260 — 320)<br>950 (860 — 1000)   |
| P6  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 330 (300 — 360)<br>1075 (990 — 1100)  |
| P7  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 310 (280 — 340)<br>1025 (920 — 1100)  |
| P8  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 950 (860 — 1000)                      |
| P11 | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 300 (270 — 330)<br>980 (890 — 1000)   |
| P12 | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 175 (160 — 190)<br>570 (530 — 620)    |
| M1  | E/M/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 220 (190 — 260)<br>720 (630 — 850)    |
| M2  | E/M/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 180 (150 — 210)<br>590 (500 — 680)    |
| M3  | E/M/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 180 (150 — 210)<br>590 (500 — 680)    |
| M4  | E/M/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 135 (110 — 150)<br>445 (370 — 490)    |
| M5  | E/M/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 110 (92 — 130)<br>360 (310 — 420)     |
| N1  | E/M/A                                                                             | 0.100<br>0,100     | 0.75<br>0,75       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 570 (500 — 640)<br>1875 (1700 — 2000) |
| N2  | E/M/A                                                                             | 0.100<br>0,100     | 0.75<br>0,75       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 570 (500 — 640)<br>1875 (1700 — 2000) |
| N3  | E/M/A                                                                             | 0.100<br>0,100     | 0.75<br>0,75       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 380 (340 — 420)<br>1250 (1200 — 1300) |
| N11 | E/M/A                                                                             | 0.100<br>0,100     | 0.75<br>0,75       | 0.0050<br>0,00020 | 0.0075<br>0,00030 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.046<br>0,0018  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 510 (440 — 580)<br>1675 (1500 — 1900) |
| S11 | E/M/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 295 (260 — 330)<br>970 (860 — 1000)   |
| S12 | E/M/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 225 (200 — 250)<br>740 (660 — 820)    |
| S13 | E/M/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 175 (160 — 200)<br>570 (530 — 650)    |
| H3  | M/A                                                                               | 0.0500<br>0,0500   | 0.30<br>0,30       | 0.0036<br>0,00014 | 0.0055<br>0,00022 | 0.0070<br>0,00028 | 0.0090<br>0,00036 | 0.011<br>0,00044  | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.032<br>0,0013  | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 120 (90 — 140)<br>395 (300 — 450)     |
| H5  | M/A                                                                               | 0.0500<br>0,0500   | 0.44<br>0,44       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 255 (230 — 280)<br>840 (760 — 910)    |
| H7  | M/A                                                                               | 0.0500<br>0,0500   | 0.30<br>0,30       | 0.0036<br>0,00014 | 0.0055<br>0,00022 | 0.0070<br>0,00028 | 0.0090<br>0,00036 | 0.011<br>0,00044  | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.032<br>0,0013  | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 120 (90 — 140)<br>395 (300 — 450)     |
| H8  | M/A                                                                               | 0.0500<br>0,0500   | 0.44<br>0,44       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 255 (230 — 280)<br>840 (760 — 910)    |
| H11 | M/A                                                                               | 0.0500<br>0,0500   | 0.44<br>0,44       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 325 (290 — 360)<br>1075 (960 — 1100)  |
| H12 | M/A                                                                               | 0.0500<br>0,0500   | 0.44<br>0,44       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 295 (270 — 330)<br>970 (890 — 1000)   |
| H21 | M/A                                                                               | 0.0500<br>0,0500   | 0.44<br>0,44       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 255 (230 — 280)<br>840 (760 — 910)    |
| H31 | M/A                                                                               | 0.0500<br>0,0500   | 0.44<br>0,44       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 195 (170 — 210)<br>640 (560 — 680)    |
| GR1 | A                                                                                 | 0.500<br>0,500     | 0.50<br>0,50       | 0.0030<br>0,00012 | 0.0044<br>0,00017 | 0.0060<br>0,00024 | 0.0075<br>0,00030 | 0.0090<br>0,00036 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.025<br>0,0010 | 0.028<br>0,0011 | 0.032<br>0,0013 | 405 (350 — 460)<br>1325 (1200 — 1500) |

Table based on LV1, please recalc based on length version chosen. See page(s) 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub>= m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

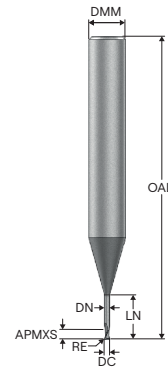
All cutting data are target values

## Cutting data – JME542 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |         |         |         |         |         |        |        | v <sub>c</sub>     |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------------------|
|     |                                                                                   |                    | 0.2            | 0.3     | 0.4     | 0.5     | 0.6     | 0.8     | 1.0     | 1.2     | 1.8     | 2.0     | 2.5    | 3.0    |                    |
| P1  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 255 (230 — 280)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 840 (760 — 910)    |
| P2  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 250 (230 — 270)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 820 (760 — 880)    |
| P3  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 215 (200 — 230)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 710 (660 — 750)    |
| P4  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 190 (170 — 200)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 620 (560 — 650)    |
| P5  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 180 (170 — 200)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 590 (560 — 650)    |
| P6  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 200 (180 — 220)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 660 (600 — 720)    |
| P7  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 190 (170 — 210)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 620 (560 — 680)    |
| P8  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 180 (170 — 200)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 590 (560 — 650)    |
| P11 | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 185 (170 — 200)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 610 (560 — 650)    |
| P12 | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.022   | 0.022   | 0.026  | 0.028  | 110 (98 — 120)     |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00085 | 0.00085 | 0.0010 | 0.0011 | 360 (330 — 390)    |
| M1  | E/M/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 135 (120 — 160)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 445 (400 — 520)    |
| M2  | E/M/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 110 (91 — 130)     |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 360 (300 — 420)    |
| M3  | E/M/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 110 (91 — 130)     |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 360 (300 — 420)    |
| M4  | E/M/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.036  | 80 (68 — 97)       |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0014 | 260 (230 — 310)    |
| M5  | E/M/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.036  | 70 (57 — 81)       |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0014 | 230 (190 — 260)    |
| N1  | E/M/A                                                                             | 0.24               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 400 (350 — 440)    |
|     |                                                                                   | 0.24               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 1300 (1200 — 1400) |
| N2  | E/M/A                                                                             | 0.24               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 400 (350 — 440)    |
|     |                                                                                   | 0.24               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 1300 (1200 — 1400) |
| N3  | E/M/A                                                                             | 0.24               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 265 (240 — 290)    |
|     |                                                                                   | 0.24               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 870 (790 — 950)    |
| N11 | E/M/A                                                                             | 0.24               | 0.0040         | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.024   | 0.036   | 0.040   | 0.048  | 0.050  | 350 (300 — 400)    |
|     |                                                                                   | 0.24               | 0.00016        | 0.00024 | 0.00032 | 0.00040 | 0.00048 | 0.00065 | 0.00080 | 0.00095 | 0.0014  | 0.0016  | 0.0019 | 0.0020 | 1150 (990 — 1300)  |
| S11 | E/M/A                                                                             | 0.36               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 180 (160 — 200)    |
|     |                                                                                   | 0.36               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 590 (530 — 650)    |
| S12 | E/M/A                                                                             | 0.36               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 140 (120 — 150)    |
|     |                                                                                   | 0.36               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 460 (400 — 490)    |
| S13 | E/M/A                                                                             | 0.36               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.036  | 110 (93 — 120)     |
|     |                                                                                   | 0.36               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0014 | 360 (310 — 390)    |
| H3  | M/A                                                                               | 0.095              | 0.0024         | 0.0036  | 0.0048  | 0.0060  | 0.0070  | 0.0095  | 0.012   | 0.014   | 0.022   | 0.024   | 0.030  | 0.036  | 80 (61 — 100)      |
|     |                                                                                   | 0.095              | 0.000095       | 0.00014 | 0.00019 | 0.00024 | 0.00028 | 0.00038 | 0.00048 | 0.00055 | 0.00085 | 0.00095 | 0.0012 | 0.0014 | 260 (210 — 320)    |
| H5  | M/A                                                                               | 0.20               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 160 (150 — 180)    |
|     |                                                                                   | 0.20               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 520 (500 — 590)    |
| H7  | M/A                                                                               | 0.095              | 0.0024         | 0.0036  | 0.0048  | 0.0060  | 0.0070  | 0.0095  | 0.012   | 0.014   | 0.022   | 0.024   | 0.030  | 0.036  | 80 (61 — 100)      |
|     |                                                                                   | 0.095              | 0.000095       | 0.00014 | 0.00019 | 0.00024 | 0.00028 | 0.00038 | 0.00048 | 0.00055 | 0.00085 | 0.00095 | 0.0012 | 0.0014 | 260 (210 — 320)    |
| H8  | M/A                                                                               | 0.20               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 160 (150 — 180)    |
|     |                                                                                   | 0.20               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 520 (500 — 590)    |
| H11 | M/A                                                                               | 0.20               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 205 (180 — 230)    |
|     |                                                                                   | 0.20               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 670 (600 — 750)    |
| H12 | M/A                                                                               | 0.20               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 190 (170 — 210)    |
|     |                                                                                   | 0.20               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 620 (560 — 680)    |
| H21 | M/A                                                                               | 0.20               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 160 (150 — 180)    |
|     |                                                                                   | 0.20               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 520 (500 — 590)    |
| H31 | M/A                                                                               | 0.20               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.036  | 120 (110 — 130)    |
|     |                                                                                   | 0.20               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0014 | 395 (370 — 420)    |
| GR1 | A                                                                                 | 0.50               | 0.0020         | 0.0030  | 0.0040  | 0.0050  | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.018   | 0.020   | 0.025  | 0.030  | 350 (300 — 400)    |
|     |                                                                                   | 0.50               | 0.00080        | 0.00012 | 0.00016 | 0.00020 | 0.00024 | 0.00032 | 0.00040 | 0.00048 | 0.00070 | 0.00080 | 0.0010 | 0.0012 | 1150 (990 — 1300)  |

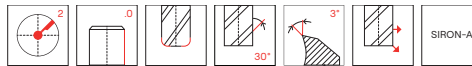
## JME562

Miniature – Universal – Square – 2 Flutes – DMM 6 – Cylindrical – Corner radius



G

- Tolerances:
- Run-out= <0,007 mm
- DMM= h5
- DC= 0,-0,013 mm
- RE= ±0,005 mm



| Designation              | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°   | PCEDC | Shank       | Stock standard |
|--------------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|-------|-------|-------------|----------------|
|                          |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm   |       |       |             |                |
| JME562005G2R005.0Z2-SIRA | 03171145    | 2            | G          | 0,5 | 6,0 | 0,8   | 50,0 | 1,5  | 0,46 | 0,05 | 13,48 | 2     | Cylindrical | ■              |
| JME562006G2R005.0Z2-SIRA | 03171146    | 2            | G          | 0,6 | 6,0 | 0,9   | 50,0 | 2,0  | 0,56 | 0,05 | 12,9  | 2     | Cylindrical | ■              |
| JME562008G2R005.0Z2-SIRA | 03171147    | 2            | G          | 0,8 | 6,0 | 1,2   | 50,0 | 2,5  | 0,76 | 0,05 | 12,28 | 2     | Cylindrical | ■              |
| JME562010G2R010.0Z2-SIRA | 03171148    | 2            | G          | 1,0 | 6,0 | 1,5   | 50,0 | 4,0  | 0,95 | 0,1  | 10,85 | 2     | Cylindrical | ■              |
| JME562012G2R015.0Z2-SIRA | 03171150    | 2            | G          | 1,2 | 6,0 | 1,8   | 50,0 | 4,5  | 1,15 | 0,1  | 10,31 | 2     | Cylindrical | ■              |
| JME562015G2R015.0Z2-SIRA | 03171151    | 2            | G          | 1,5 | 6,0 | 2,3   | 50,0 | 5,0  | 1,45 | 0,15 | 9,67  | 2     | Cylindrical | ■              |
| JME562018G2R015.0Z2-SIRA | 03171152    | 2            | G          | 1,8 | 6,0 | 2,7   | 50,0 | 5,4  | 1,75 | 0,15 | 9,12  | 2     | Cylindrical | ■              |
| JME562020G2R015.0Z2-SIRA | 03171153    | 2            | G          | 2,0 | 6,0 | 3,0   | 50,0 | 6,0  | 1,94 | 0,15 | 8,53  | 2     | Cylindrical | ■              |
| JME562025G2R015.0Z2-SIRA | 03171154    | 2            | G          | 2,5 | 6,0 | 3,8   | 60,0 | 7,5  | 2,4  | 0,15 | 7,15  | 2     | Cylindrical | ■              |
| JME562030G2R015.0Z2-SIRA | 03171155    | 2            | G          | 3,0 | 6,0 | 4,5   | 60,0 | 9,0  | 2,85 | 0,15 | 5,81  | 2     | Cylindrical | ■              |
| JME562005G4R005.0Z2-SIRA | 03171156    | 4            | G          | 0,5 | 6,0 | 0,8   | 50,0 | 3,5  | 0,46 | 0,05 | 11,54 | 2     | Cylindrical | ■              |
| JME562006G4R005.0Z2-SIRA | 03171157    | 4            | G          | 0,6 | 6,0 | 0,9   | 50,0 | 4,2  | 0,56 | 0,05 | 10,93 | 2     | Cylindrical | ■              |
| JME562008G4R005.0Z2-SIRA | 03171158    | 4            | G          | 0,8 | 6,0 | 1,2   | 50,0 | 5,6  | 0,76 | 0,05 | 9,81  | 2     | Cylindrical | ■              |
| JME562010G4R010.0Z2-SIRA | 03171159    | 4            | G          | 1,0 | 6,0 | 1,5   | 50,0 | 7,0  | 0,95 | 0,1  | 8,86  | 2     | Cylindrical | ■              |
| JME562012G4R010.0Z2-SIRA | 03171160    | 4            | G          | 1,2 | 6,0 | 1,8   | 50,0 | 8,4  | 1,15 | 0,1  | 8,0   | 2     | Cylindrical | ■              |
| JME562015G4R015.0Z2-SIRA | 03171162    | 4            | G          | 1,5 | 6,0 | 2,3   | 50,0 | 10,5 | 1,45 | 0,15 | 6,86  | 2     | Cylindrical | ■              |
| JME562020G4R015.0Z2-SIRA | 03171163    | 4            | G          | 2,0 | 6,0 | 3,0   | 60,0 | 14,0 | 1,94 | 0,15 | 5,36  | 2     | Cylindrical | ■              |
| JME562030G4R015.0Z2-SIRA | 03171165    | 4            | G          | 3,0 | 6,0 | 4,5   | 70,0 | 21,0 | 2,85 | 0,15 | 3,22  | 2     | Cylindrical | ■              |
| JME562005G5R005.0Z2-SIRA | 03171166    | 5            | G          | 0,5 | 6,0 | 0,8   | 50,0 | 5,0  | 0,46 | 0,05 | 10,42 | 2     | Cylindrical | ■              |
| JME562006G5R005.0Z2-SIRA | 03171167    | 5            | G          | 0,6 | 6,0 | 0,9   | 50,0 | 6,0  | 0,56 | 0,05 | 9,71  | 2     | Cylindrical | ■              |
| JME562008G5R005.0Z2-SIRA | 03171168    | 5            | G          | 0,8 | 6,0 | 1,2   | 50,0 | 8,0  | 0,76 | 0,05 | 8,48  | 2     | Cylindrical | ■              |
| JME562010G5R010.0Z2-SIRA | 03171169    | 5            | G          | 1,0 | 6,0 | 1,5   | 50,0 | 10,0 | 0,95 | 0,1  | 7,48  | 2     | Cylindrical | ■              |
| JME562012G5R010.0Z2-SIRA | 03171170    | 5            | G          | 1,2 | 6,0 | 1,8   | 50,0 | 12,0 | 1,15 | 0,1  | 6,62  | 2     | Cylindrical | ■              |
| JME562015G5R015.0Z2-SIRA | 03171171    | 5            | G          | 1,5 | 6,0 | 2,3   | 60,0 | 15,0 | 1,45 | 0,15 | 5,54  | 2     | Cylindrical | ■              |
| JME562020G5R015.0Z2-SIRA | 03171172    | 5            | G          | 2,0 | 6,0 | 3,0   | 60,0 | 20,0 | 1,94 | 0,15 | 4,19  | 2     | Cylindrical | ■              |
| JME562030G5R015.0Z2-SIRA | 03171174    | 5            | G          | 3,0 | 6,0 | 4,5   | 70,0 | 30,0 | 2,85 | 0,15 | 2,41  | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

Graphite

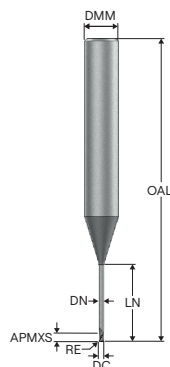
X-Heads

Minimaster



## JME562

Miniature – Universal – Square – 2 Flutes – DMM 6 – Cylindrical – Corner radius



G

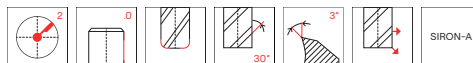
—Tolerances:

—Run-out= &lt;0,007 mm

—DMM= h5

—DC= 0,-0,013 mm

—RE= ±0,005 mm



| Designation              | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL   | LN   | DN   | RE   | CA°  | PCEDC | Shank       | Stock standard |
|--------------------------|-------------|--------------|------------|-----|-----|-------|-------|------|------|------|------|-------|-------------|----------------|
| JME562010G6R010.0Z2-SIRA | 03171175    | 6            | G          | 1,0 | 6,0 | 1,5   | 60,0  | 15,0 | 0,95 | 0,1  | 5,94 | 2     | Cylindrical | ■              |
| JME562012G6R010.0Z2-SIRA | 03171176    | 6            | G          | 1,2 | 6,0 | 1,8   | 60,0  | 18,0 | 1,15 | 0,1  | 5,14 | 2     | Cylindrical | ■              |
| JME562015G6R015.0Z2-SIRA | 03171177    | 6            | G          | 1,5 | 6,0 | 2,3   | 70,0  | 22,5 | 1,45 | 0,15 | 4,2  | 2     | Cylindrical | ■              |
| JME562020G6R015.0Z2-SIRA | 03171178    | 6            | G          | 2,0 | 6,0 | 3,0   | 80,0  | 30,0 | 1,94 | 0,15 | 3,07 | 2     | Cylindrical | ■              |
| JME562030G6R015.0Z2-SIRA | 03171180    | 6            | G          | 3,0 | 6,0 | 4,5   | 90,0  | 45,0 | 2,85 | 0,15 | 1,7  | 2     | Cylindrical | ■              |
| JME562010G7R010.0Z2-SIRA | 03171181    | 7            | G          | 1,0 | 6,0 | 1,5   | 60,0  | 20,0 | 0,95 | 0,1  | 4,93 | 2     | Cylindrical | ■              |
| JME562012G7R010.0Z2-SIRA | 03171182    | 7            | G          | 1,2 | 6,0 | 1,8   | 80,0  | 24,0 | 1,15 | 0,1  | 4,2  | 2     | Cylindrical | ■              |
| JME562015G7R015.0Z2-SIRA | 03171183    | 7            | G          | 1,5 | 6,0 | 2,3   | 80,0  | 30,0 | 1,45 | 0,15 | 3,38 | 2     | Cylindrical | ■              |
| JME562020G7R015.0Z2-SIRA | 03171184    | 7            | G          | 2,0 | 6,0 | 3,0   | 80,0  | 40,0 | 1,94 | 0,15 | 2,42 | 2     | Cylindrical | ■              |
| JME562030G7R015.0Z2-SIRA | 03171186    | 7            | G          | 3,0 | 6,0 | 4,5   | 100,0 | 60,0 | 2,85 | 0,15 | 1,31 | 2     | Cylindrical | ■              |

■ Stocked standard.



### Cutting data – JME562 Side milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$     | $f_z$             |                   |                   |                   |                   |                  |                  |                  |                  |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|------------------|--------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                  |              | 0.2               | 0.3               | 0.4               | 0.5               | 0.6               | 0.8              | 1.0              | 1.2              | 1.8              | 2.0             | 2.5             | 3.0             |                                       |
| P1  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 415 (370 — 460)<br>1350 (1300 — 1500) |
| P2  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 405 (360 — 440)<br>1325 (1200 — 1400) |
| P3  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 350 (310 — 380)<br>1150 (1100 — 1200) |
| P4  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 305 (280 — 340)<br>1000 (920 — 1100)  |
| P5  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 290 (260 — 320)<br>950 (860 — 1000)   |
| P6  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 330 (300 — 360)<br>1075 (990 — 1100)  |
| P7  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 310 (280 — 340)<br>1025 (920 — 1100)  |
| P8  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 950 (860 — 1000)                      |
| P11 | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 300 (270 — 330)<br>980 (890 — 1000)   |
| P12 | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 175 (160 — 190)<br>570 (530 — 620)    |
| M1  | E/M/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 220 (190 — 260)<br>720 (630 — 850)    |
| M2  | E/M/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 180 (150 — 210)<br>590 (500 — 680)    |
| M3  | E/M/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 180 (150 — 210)<br>590 (500 — 680)    |
| M4  | E/M/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 135 (110 — 150)<br>445 (370 — 490)    |
| M5  | E/M/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 110 (92 — 130)<br>360 (310 — 420)     |
| N1  | E/M/A                                                                             | 0.100<br>0,100   | 0.75<br>0,75 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 570 (500 — 640)<br>1875 (1700 — 2000) |
| N2  | E/M/A                                                                             | 0.100<br>0,100   | 0.75<br>0,75 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 570 (500 — 640)<br>1875 (1700 — 2000) |
| N3  | E/M/A                                                                             | 0.100<br>0,100   | 0.75<br>0,75 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 380 (340 — 420)<br>1250 (1200 — 1300) |
| N11 | E/M/A                                                                             | 0.100<br>0,100   | 0.75<br>0,75 | 0.0050<br>0,00020 | 0.0075<br>0,00030 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.046<br>0,0018  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 510 (440 — 580)<br>1675 (1500 — 1900) |
| S11 | E/M/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 295 (260 — 330)<br>970 (860 — 1000)   |
| S12 | E/M/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 225 (200 — 250)<br>740 (660 — 820)    |
| S13 | E/M/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 175 (160 — 200)<br>570 (530 — 650)    |
| H3  | M/A                                                                               | 0.0500<br>0,0500 | 0.30<br>0,30 | 0.0036<br>0,00014 | 0.0055<br>0,00022 | 0.0070<br>0,00028 | 0.0090<br>0,00036 | 0.011<br>0,00044  | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.032<br>0,0013  | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 120 (90 — 140)<br>395 (300 — 450)     |
| H5  | M/A                                                                               | 0.0500<br>0,0500 | 0.44<br>0,44 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 255 (230 — 280)<br>840 (760 — 910)    |
| H7  | M/A                                                                               | 0.0500<br>0,0500 | 0.30<br>0,30 | 0.0036<br>0,00014 | 0.0055<br>0,00022 | 0.0070<br>0,00028 | 0.0090<br>0,00036 | 0.011<br>0,00044  | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.032<br>0,0013  | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 120 (90 — 140)<br>395 (300 — 450)     |
| H8  | M/A                                                                               | 0.0500<br>0,0500 | 0.44<br>0,44 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 255 (230 — 280)<br>840 (760 — 910)    |
| H11 | M/A                                                                               | 0.0500<br>0,0500 | 0.44<br>0,44 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 325 (290 — 360)<br>1075 (960 — 1100)  |
| H12 | M/A                                                                               | 0.0500<br>0,0500 | 0.44<br>0,44 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 295 (270 — 330)<br>970 (890 — 1000)   |
| H21 | M/A                                                                               | 0.0500<br>0,0500 | 0.44<br>0,44 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 255 (230 — 280)<br>840 (760 — 910)    |
| H31 | M/A                                                                               | 0.0500<br>0,0500 | 0.44<br>0,44 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 195 (170 — 210)<br>640 (560 — 680)    |
| GR1 | A                                                                                 | 0.500<br>0,500   | 0.50<br>0,50 | 0.0030<br>0,00012 | 0.0044<br>0,00017 | 0.0060<br>0,00024 | 0.0075<br>0,00030 | 0.0090<br>0,00036 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.025<br>0,0010 | 0.028<br>0,0011 | 0.032<br>0,0013 | 405 (350 — 460)<br>1325 (1200 — 1500) |

Table based on LV1, please recalc based on length version chosen. See page(s) 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

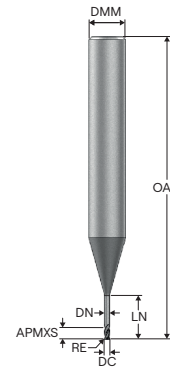
All cutting data are target values

## Cutting data – JME562 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |         |         |         |         |         |        |        | v <sub>c</sub>     |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------------------|
|     |                                                                                   |                    | 0.2            | 0.3     | 0.4     | 0.5     | 0.6     | 0.8     | 1.0     | 1.2     | 1.8     | 2.0     | 2.5    | 3.0    |                    |
| P1  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 255 (230 — 280)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 840 (760 — 910)    |
| P2  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 250 (230 — 270)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 820 (760 — 880)    |
| P3  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 215 (200 — 230)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 710 (660 — 750)    |
| P4  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 190 (170 — 200)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 620 (560 — 650)    |
| P5  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 180 (170 — 200)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 590 (560 — 650)    |
| P6  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 200 (180 — 220)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 660 (600 — 720)    |
| P7  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 190 (170 — 210)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 620 (560 — 680)    |
| P8  | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 180 (170 — 200)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 590 (560 — 650)    |
| P11 | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 185 (170 — 200)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 610 (560 — 650)    |
| P12 | M/E/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.022   | 0.022   | 0.026  | 0.028  | 110 (98 — 120)     |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00085 | 0.00085 | 0.0010 | 0.0011 | 360 (330 — 390)    |
| M1  | E/M/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 135 (120 — 160)    |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 445 (400 — 520)    |
| M2  | E/M/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 110 (91 — 130)     |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 360 (300 — 420)    |
| M3  | E/M/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 110 (91 — 130)     |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 360 (300 — 420)    |
| M4  | E/M/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.036  | 80 (68 — 97)       |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0014 | 260 (230 — 310)    |
| M5  | E/M/A                                                                             | 0.32               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.036  | 70 (57 — 81)       |
|     |                                                                                   | 0.32               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0014 | 230 (190 — 260)    |
| N1  | E/M/A                                                                             | 0.24               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 400 (350 — 440)    |
|     |                                                                                   | 0.24               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 1300 (1200 — 1400) |
| N2  | E/M/A                                                                             | 0.24               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 400 (350 — 440)    |
|     |                                                                                   | 0.24               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 1300 (1200 — 1400) |
| N3  | E/M/A                                                                             | 0.24               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 265 (240 — 290)    |
|     |                                                                                   | 0.24               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 870 (790 — 950)    |
| N11 | E/M/A                                                                             | 0.24               | 0.0040         | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.024   | 0.036   | 0.040   | 0.048  | 0.050  | 350 (300 — 400)    |
|     |                                                                                   | 0.24               | 0.00016        | 0.00024 | 0.00032 | 0.00040 | 0.00048 | 0.00065 | 0.00080 | 0.00095 | 0.0014  | 0.0016  | 0.0019 | 0.0020 | 1150 (990 — 1300)  |
| S11 | E/M/A                                                                             | 0.36               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 180 (160 — 200)    |
|     |                                                                                   | 0.36               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 590 (530 — 650)    |
| S12 | E/M/A                                                                             | 0.36               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 140 (120 — 150)    |
|     |                                                                                   | 0.36               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 460 (400 — 490)    |
| S13 | E/M/A                                                                             | 0.36               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.036  | 110 (93 — 120)     |
|     |                                                                                   | 0.36               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0014 | 360 (310 — 390)    |
| H3  | M/A                                                                               | 0.095              | 0.0024         | 0.0036  | 0.0048  | 0.0060  | 0.0070  | 0.0095  | 0.012   | 0.014   | 0.022   | 0.024   | 0.030  | 0.036  | 80 (61 — 100)      |
|     |                                                                                   | 0.095              | 0.000095       | 0.00014 | 0.00019 | 0.00024 | 0.00028 | 0.00038 | 0.00048 | 0.00055 | 0.00085 | 0.00095 | 0.0012 | 0.0014 | 260 (210 — 320)    |
| H5  | M/A                                                                               | 0.20               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 160 (150 — 180)    |
|     |                                                                                   | 0.20               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 520 (500 — 590)    |
| H7  | M/A                                                                               | 0.095              | 0.0024         | 0.0036  | 0.0048  | 0.0060  | 0.0070  | 0.0095  | 0.012   | 0.014   | 0.022   | 0.024   | 0.030  | 0.036  | 80 (61 — 100)      |
|     |                                                                                   | 0.095              | 0.000095       | 0.00014 | 0.00019 | 0.00024 | 0.00028 | 0.00038 | 0.00048 | 0.00055 | 0.00085 | 0.00095 | 0.0012 | 0.0014 | 260 (210 — 320)    |
| H8  | M/A                                                                               | 0.20               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 160 (150 — 180)    |
|     |                                                                                   | 0.20               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 520 (500 — 590)    |
| H11 | M/A                                                                               | 0.20               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 205 (180 — 230)    |
|     |                                                                                   | 0.20               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 670 (600 — 750)    |
| H12 | M/A                                                                               | 0.20               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 190 (170 — 210)    |
|     |                                                                                   | 0.20               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 620 (560 — 680)    |
| H21 | M/A                                                                               | 0.20               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.040  | 160 (150 — 180)    |
|     |                                                                                   | 0.20               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0016 | 520 (500 — 590)    |
| H31 | M/A                                                                               | 0.20               | 0.0026         | 0.0040  | 0.0050  | 0.0065  | 0.0080  | 0.010   | 0.013   | 0.016   | 0.024   | 0.026   | 0.032  | 0.036  | 120 (110 — 130)    |
|     |                                                                                   | 0.20               | 0.00010        | 0.00016 | 0.00020 | 0.00026 | 0.00032 | 0.00040 | 0.00050 | 0.00065 | 0.00095 | 0.0010  | 0.0013 | 0.0014 | 395 (370 — 420)    |
| GR1 | A                                                                                 | 0.50               | 0.0020         | 0.0030  | 0.0040  | 0.0050  | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.018   | 0.020   | 0.025  | 0.030  | 350 (300 — 400)    |
|     |                                                                                   | 0.50               | 0.00080        | 0.00012 | 0.00016 | 0.00020 | 0.00024 | 0.00032 | 0.00040 | 0.00048 | 0.00070 | 0.00080 | 0.0010 | 0.0012 | 1150 (990 — 1300)  |

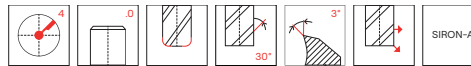
## JME564

Miniature – Universal – Square – 4 Flutes – DMM 6 – Cylindrical – Corner radius



G

- Tolerances:
- Run-out= <0-0,007 mm
- DMM= h5
- DC= 0,-0,013 mm
- RE= ±0,005 mm



| Designation              | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°   | PCEDC | Shank       | Stock standard |
|--------------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|-------|-------|-------------|----------------|
|                          |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm   |       |       |             |                |
| JME564005G2R005.0Z4-SIRA | 03227166    | 2            | G          | 0,5 | 6,0 | 1,0   | 50,0 | 1,5  | 0,46 | 0,05 | 13,48 | 4     | Cylindrical | ■              |
| JME564006G2R005.0Z4-SIRA | 03227271    | 2            | G          | 0,6 | 6,0 | 1,2   | 50,0 | 2,0  | 0,56 | 0,05 | 12,9  | 4     | Cylindrical | ■              |
| JME564008G2R005.0Z4-SIRA | 03171194    | 2            | G          | 0,8 | 6,0 | 1,6   | 50,0 | 2,5  | 0,76 | 0,05 | 12,28 | 4     | Cylindrical | ■              |
| JME564010G2R010.0Z4-SIRA | 03171195    | 2            | G          | 1,0 | 6,0 | 2,0   | 50,0 | 4,0  | 0,95 | 0,1  | 10,85 | 4     | Cylindrical | ■              |
| JME564012G2R010.0Z4-SIRA | 03171196    | 2            | G          | 1,2 | 6,0 | 2,4   | 50,0 | 4,5  | 1,15 | 0,1  | 10,31 | 4     | Cylindrical | ■              |
| JME564015G2R015.0Z4-SIRA | 03171197    | 2            | G          | 1,5 | 6,0 | 3,0   | 50,0 | 5,0  | 1,45 | 0,15 | 9,67  | 4     | Cylindrical | ■              |
| JME564020G2R015.0Z4-SIRA | 03171198    | 2            | G          | 2,0 | 6,0 | 4,0   | 50,0 | 6,0  | 1,94 | 0,15 | 8,53  | 4     | Cylindrical | ■              |
| JME564025G2R015.0Z4-SIRA | 03171199    | 2            | G          | 2,5 | 6,0 | 5,0   | 60,0 | 7,5  | 2,4  | 0,15 | 7,15  | 4     | Cylindrical | ■              |
| JME564030G2R015.0Z4-SIRA | 03171200    | 2            | G          | 3,0 | 6,0 | 6,0   | 60,0 | 9,0  | 2,85 | 0,15 | 5,81  | 4     | Cylindrical | ■              |
| JME564005G4R005.0Z4-SIRA | 03171201    | 4            | G          | 0,5 | 6,0 | 1,0   | 50,0 | 3,5  | 0,46 | 0,05 | 11,54 | 4     | Cylindrical | ■              |
| JME564006G4R005.0Z4-SIRA | 03171202    | 4            | G          | 0,6 | 6,0 | 1,2   | 50,0 | 4,2  | 0,56 | 0,05 | 10,93 | 4     | Cylindrical | ■              |
| JME564008G4R005.0Z4-SIRA | 03171203    | 4            | G          | 0,8 | 6,0 | 1,6   | 50,0 | 5,6  | 0,76 | 0,05 | 9,81  | 4     | Cylindrical | ■              |
| JME564010G4R010.0Z4-SIRA | 03171204    | 4            | G          | 1,0 | 6,0 | 2,0   | 50,0 | 7,0  | 0,95 | 0,1  | 8,86  | 4     | Cylindrical | ■              |
| JME564012G4R010.0Z4-SIRA | 03171205    | 4            | G          | 1,2 | 6,0 | 2,4   | 50,0 | 8,4  | 1,15 | 0,1  | 8,0   | 4     | Cylindrical | ■              |
| JME564015G4R015.0Z4-SIRA | 03171206    | 4            | G          | 1,5 | 6,0 | 3,0   | 50,0 | 10,5 | 1,45 | 0,15 | 6,86  | 4     | Cylindrical | ■              |
| JME564020G4R015.0Z4-SIRA | 03171207    | 4            | G          | 2,0 | 6,0 | 4,0   | 60,0 | 14,0 | 1,94 | 0,15 | 5,36  | 4     | Cylindrical | ■              |
| JME564030G4R015.0Z4-SIRA | 03171209    | 4            | G          | 3,0 | 6,0 | 6,0   | 70,0 | 21,0 | 2,85 | 0,15 | 3,22  | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

Graphite

X-Heads

Minimaster

## Cutting data – JME564 Side milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |         |        |        |        | v <sub>c</sub>     |  |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|---------|---------|---------|---------|---------|--------|--------|--------|--------------------|--|
|     |                                                                                   |                    |                    | 0.5            | 0.6     | 0.8     | 1.0     | 1.2     | 1.5     | 2.0    | 2.5    | 3      |                    |  |
| P1  | M/E/A                                                                             | 0.0500             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 395 (360 — 430)    |  |
|     |                                                                                   | 0,0500             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 1300 (1200 — 1400) |  |
| P2  | M/E/A                                                                             | 0.0500             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 385 (350 — 420)    |  |
|     |                                                                                   | 0,0500             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 1275 (1200 — 1300) |  |
| P3  | M/E/A                                                                             | 0.0500             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 330 (300 — 360)    |  |
|     |                                                                                   | 0,0500             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 1075 (990 — 1100)  |  |
| P4  | M/E/A                                                                             | 0.0500             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 290 (260 — 320)    |  |
|     |                                                                                   | 0,0500             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 950 (860 — 1000)   |  |
| P5  | M/E/A                                                                             | 0.0500             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 280 (250 — 300)    |  |
|     |                                                                                   | 0,0500             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 920 (830 — 980)    |  |
| P6  | M/E/A                                                                             | 0.0500             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 310 (280 — 340)    |  |
|     |                                                                                   | 0,0500             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 1025 (920 — 1100)  |  |
| P7  | M/E/A                                                                             | 0.0500             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 295 (270 — 320)    |  |
|     |                                                                                   | 0,0500             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 970 (890 — 1000)   |  |
| P8  | M/E/A                                                                             | 0.0500             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 280 (250 — 300)    |  |
|     |                                                                                   | 0,0500             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 920 (830 — 980)    |  |
| P11 | M/E/A                                                                             | 0.0500             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 285 (260 — 310)    |  |
|     |                                                                                   | 0,0500             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 940 (860 — 1000)   |  |
| P12 | M/E/A                                                                             | 0.0500             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 170 (160 — 180)    |  |
|     |                                                                                   | 0,0500             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 560 (530 — 590)    |  |
| M1  | E/M/A                                                                             | 0.0250             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 235 (200 — 280)    |  |
|     |                                                                                   | 0,0250             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 770 (660 — 910)    |  |
| M2  | E/M/A                                                                             | 0.0250             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 190 (160 — 220)    |  |
|     |                                                                                   | 0,0250             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 620 (530 — 720)    |  |
| M3  | E/M/A                                                                             | 0.0250             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 190 (160 — 220)    |  |
|     |                                                                                   | 0,0250             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 620 (530 — 720)    |  |
| M4  | E/M/A                                                                             | 0.0250             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 145 (120 — 160)    |  |
|     |                                                                                   | 0,0250             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 475 (400 — 520)    |  |
| M5  | E/M/A                                                                             | 0.0250             | 0.50               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 120 (99 — 140)     |  |
|     |                                                                                   | 0,0250             | 0,50               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 395 (330 — 450)    |  |
| N1  | E/M/A                                                                             | 0.100              | 0.90               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 550 (490 — 610)    |  |
|     |                                                                                   | 0,100              | 0,90               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 1800 (1700 — 2000) |  |
| N2  | E/M/A                                                                             | 0.100              | 0.90               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 550 (490 — 610)    |  |
|     |                                                                                   | 0,100              | 0,90               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 1800 (1700 — 2000) |  |
| N3  | E/M/A                                                                             | 0.100              | 0.90               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 365 (330 — 410)    |  |
|     |                                                                                   | 0,100              | 0,90               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 1200 (1100 — 1300) |  |
| N11 | E/M/A                                                                             | 0.100              | 0.90               | 0.012          | 0.015   | 0.020   | 0.025   | 0.030   | 0.038   | 0.050  | 0.060  | 0.075  | 490 (430 — 560)    |  |
|     |                                                                                   | 0,100              | 0,90               | 0,00048        | 0,00060 | 0,00080 | 0,0010  | 0,0012  | 0,0015  | 0,0020 | 0,0024 | 0,0030 | 1600 (1500 — 1800) |  |
| S11 | E/M/A                                                                             | 0.0500             | 0.60               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 285 (250 — 320)    |  |
|     |                                                                                   | 0,0500             | 0,60               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 940 (830 — 1000)   |  |
| S12 | E/M/A                                                                             | 0.0500             | 0.60               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 220 (190 — 250)    |  |
|     |                                                                                   | 0,0500             | 0,60               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 720 (630 — 820)    |  |
| S13 | E/M/A                                                                             | 0.0500             | 0.60               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 170 (150 — 190)    |  |
|     |                                                                                   | 0,0500             | 0,60               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 560 (500 — 620)    |  |
| H3  | M/A                                                                               | 0.0500             | 0.060              | 0.0090         | 0.011   | 0.014   | 0.018   | 0.022   | 0.026   | 0.036  | 0.038  | 0.042  | 125 (95 — 150)     |  |
|     |                                                                                   | 0,0500             | 0,060              | 0,00036        | 0,00044 | 0,00055 | 0,00070 | 0,00085 | 0,0010  | 0,0014 | 0,0015 | 0,0017 | 410 (320 — 490)    |  |
| H5  | M/A                                                                               | 0.0500             | 0.28               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 240 (210 — 260)    |  |
|     |                                                                                   | 0,0500             | 0,28               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 790 (690 — 850)    |  |
| H7  | M/A                                                                               | 0.0500             | 0.060              | 0.0090         | 0.011   | 0.014   | 0.018   | 0.022   | 0.026   | 0.036  | 0.038  | 0.042  | 125 (95 — 150)     |  |
|     |                                                                                   | 0,0500             | 0,060              | 0,00036        | 0,00044 | 0,00055 | 0,00070 | 0,00085 | 0,0010  | 0,0014 | 0,0015 | 0,0017 | 410 (320 — 490)    |  |
| H8  | M/A                                                                               | 0.0500             | 0.28               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.055  | 240 (210 — 260)    |  |
|     |                                                                                   | 0,0500             | 0,28               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0022 | 790 (690 — 850)    |  |
| H11 | M/A                                                                               | 0.0500             | 0.28               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.060  | 305 (270 — 340)    |  |
|     |                                                                                   | 0,0500             | 0,28               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 1000 (890 — 1100)  |  |
| H12 | M/A                                                                               | 0.0500             | 0.28               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.055  | 275 (250 — 310)    |  |
|     |                                                                                   | 0,0500             | 0,28               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0022 | 900 (830 — 1000)   |  |
| H21 | M/A                                                                               | 0.0500             | 0.28               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.040  | 0.050  | 0.055  | 240 (210 — 260)    |  |
|     |                                                                                   | 0,0500             | 0,28               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0016 | 0,0020 | 0,0022 | 790 (690 — 850)    |  |
| H31 | M/A                                                                               | 0.0500             | 0.28               | 0.010          | 0.012   | 0.016   | 0.020   | 0.024   | 0.030   | 0.038  | 0.044  | 0.048  | 180 (160 — 200)    |  |
|     |                                                                                   | 0,0500             | 0,28               | 0,00040        | 0,00048 | 0,00065 | 0,00080 | 0,00095 | 0,0012  | 0,0015 | 0,0017 | 0,0019 | 590 (530 — 650)    |  |
| GR1 | A                                                                                 | 0.500              | 0.65               | 0.0075         | 0.0090  | 0.012   | 0.015   | 0.018   | 0.020   | 0.025  | 0.028  | 0.032  | 390 (340 — 440)    |  |
|     |                                                                                   | 0,500              | 0,50               | 0,00030        | 0,00036 | 0,00048 | 0,00060 | 0,00070 | 0,00085 | 0,0010 | 0,0011 | 0,0013 | 1300 (1200 — 1400) |  |

Table based on LV1, please recalc based on length version chosen. See page(s) 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – JME564 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                   |                  |                  |                  |                  |                  |                 | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|------------------|-----------------|---------------------------------------|
|     |                                                                                   |                    | 0.5               | 0.6               | 0.8               | 1.0              | 1.2              | 1.5              | 2.0              | 2.5              | 3               |                                       |
| P1  | M/E/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 250 (230 — 270)<br>820 (760 — 880)    |
| P2  | M/E/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 245 (220 — 270)<br>800 (730 — 880)    |
| P3  | M/E/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 210 (190 — 230)<br>690 (630 — 750)    |
| P4  | M/E/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 185 (170 — 200)<br>610 (560 — 650)    |
| P5  | M/E/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 175 (160 — 190)<br>570 (530 — 620)    |
| P6  | M/E/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 200 (180 — 220)<br>660 (600 — 720)    |
| P7  | M/E/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 185 (170 — 200)<br>610 (560 — 650)    |
| P8  | M/E/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 175 (160 — 190)<br>570 (530 — 620)    |
| P11 | M/E/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 180 (170 — 200)<br>590 (560 — 650)    |
| P12 | M/E/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.019<br>0,00075 | 0.024<br>0,00095 | 0.026<br>0,0010  | 0.030<br>0,0012 | 105 (96 — 110)<br>345 (320 — 360)     |
| M1  | E/M/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 135 (110 — 150)<br>445 (370 — 490)    |
| M2  | E/M/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 110 (89 — 120)<br>360 (300 — 390)     |
| M3  | E/M/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 110 (89 — 120)<br>360 (300 — 390)     |
| M4  | E/M/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.038<br>0,0015 | 80 (67 — 95)<br>260 (220 — 310)       |
| M5  | E/M/A                                                                             | 0.038<br>0,038     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.038<br>0,0015 | 65 (56 — 79)<br>215 (190 — 250)       |
| N1  | E/M/A                                                                             | 0.15<br>0,15       | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 390 (350 — 440)<br>1275 (1200 — 1400) |
| N2  | E/M/A                                                                             | 0.15<br>0,15       | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 390 (350 — 440)<br>1275 (1200 — 1400) |
| N3  | E/M/A                                                                             | 0.15<br>0,15       | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 260 (230 — 290)<br>850 (760 — 950)    |
| N11 | E/M/A                                                                             | 0.15<br>0,15       | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065  | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.048<br>0,0019  | 0.055<br>0,0022 | 345 (300 — 390)<br>1125 (990 — 1200)  |
| S11 | E/M/A                                                                             | 0.11<br>0,11       | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 180 (160 — 200)<br>590 (530 — 650)    |
| S12 | E/M/A                                                                             | 0.11<br>0,11       | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 135 (120 — 150)<br>445 (400 — 490)    |
| S13 | E/M/A                                                                             | 0.11<br>0,11       | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.036<br>0,0014 | 105 (92 — 120)<br>345 (310 — 390)     |
| H3  | M/A                                                                               | 0.0060<br>0,0060   | 0.0060<br>0,00024 | 0.0070<br>0,00028 | 0.0095<br>0,00038 | 0.012<br>0,00048 | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 80 (59 — 98)<br>260 (200 — 320)       |
| H5  | M/A                                                                               | 0.020<br>0,020     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 160 (140 — 170)<br>520 (460 — 550)    |
| H7  | M/A                                                                               | 0.0060<br>0,0060   | 0.0060<br>0,00024 | 0.0070<br>0,00028 | 0.0095<br>0,00038 | 0.012<br>0,00048 | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 80 (59 — 98)<br>260 (200 — 320)       |
| H8  | M/A                                                                               | 0.020<br>0,020     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.030<br>0,0012  | 0.032<br>0,0013 | 160 (140 — 170)<br>520 (460 — 550)    |
| H11 | M/A                                                                               | 0.020<br>0,020     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016 | 200 (180 — 220)<br>660 (600 — 720)    |
| H12 | M/A                                                                               | 0.020<br>0,020     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.030<br>0,0012  | 0.032<br>0,0013 | 185 (170 — 200)<br>610 (560 — 650)    |
| H21 | M/A                                                                               | 0.020<br>0,020     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.030<br>0,0012  | 0.032<br>0,0013 | 160 (140 — 170)<br>520 (460 — 550)    |
| H31 | M/A                                                                               | 0.020<br>0,020     | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.019<br>0,00075 | 0.022<br>0,00085 | 0.025<br>0,0010  | 0.028<br>0,0011 | 120 (110 — 130)<br>395 (370 — 420)    |
| GR1 | A                                                                                 | 0.20<br>0,20       | 0.0050<br>0,00020 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.026<br>0,0010 | 325 (280 — 370)<br>1075 (920 — 1200)  |

Table based on LV1, please recalc based on length version chosen. See page(s) 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

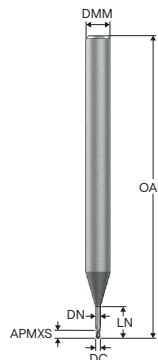
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

## JMB542

Miniature – Universal – Ball nose – 2 Flutes – DMM 4 – Cylindrical



G

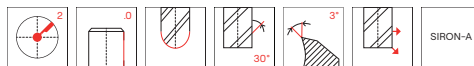
—Tolerances:

—Run-out=&lt;0,007 mm

—DMM= h5

—DC= 0,-0,01 mm

—RE= ±0,005 mm



| Designation           | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°   | PCEDC | Shank       | Stock standard |
|-----------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|-------|-------|-------------|----------------|
|                       |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm   |       |       |             |                |
| JMB542002G1B.0Z2-SIRA | 03171221    | 1            | G          | 0,2 | 4,0 | 0,2   | 45,0 | 0,4  | 0,18 | 0,1  | 14,57 | 2     | Cylindrical | ■              |
| JMB542003G1B.0Z2-SIRA | 03171222    | 1            | G          | 0,3 | 4,0 | 0,3   | 45,0 | 0,6  | 0,28 | 0,15 | 14,24 | 2     | Cylindrical | ■              |
| JMB542004G1B.0Z2-SIRA | 03171223    | 1            | G          | 0,4 | 4,0 | 0,4   | 45,0 | 0,8  | 0,37 | 0,2  | 13,81 | 2     | Cylindrical | ■              |
| JMB542005G1B.0Z2-SIRA | 03171224    | 1            | G          | 0,5 | 4,0 | 0,5   | 45,0 | 1,0  | 0,46 | 0,25 | 13,47 | 2     | Cylindrical | ■              |
| JMB542006G1B.0Z2-SIRA | 03171225    | 1            | G          | 0,6 | 4,0 | 0,6   | 45,0 | 1,2  | 0,56 | 0,3  | 13,14 | 2     | Cylindrical | ■              |
| JMB542008G1B.0Z2-SIRA | 03171226    | 1            | G          | 0,8 | 4,0 | 0,8   | 45,0 | 1,6  | 0,76 | 0,4  | 12,46 | 2     | Cylindrical | ■              |
| JMB542010G1B.0Z2-SIRA | 03171228    | 1            | G          | 1,0 | 4,0 | 1,0   | 50,0 | 2,0  | 0,95 | 0,5  | 11,77 | 2     | Cylindrical | ■              |
| JMB542012G1B.0Z2-SIRA | 03171229    | 1            | G          | 1,2 | 4,0 | 1,2   | 50,0 | 2,4  | 1,15 | 0,6  | 11,07 | 2     | Cylindrical | ■              |
| JMB542015G1B.0Z2-SIRA | 03171230    | 1            | G          | 1,5 | 4,0 | 1,5   | 50,0 | 3,0  | 1,45 | 0,75 | 9,88  | 2     | Cylindrical | ■              |
| JMB542005G3B.0Z2-SIRA | 03171231    | 3            | G          | 0,5 | 4,0 | 0,5   | 45,0 | 2,5  | 0,46 | 0,25 | 11,25 | 2     | Cylindrical | ■              |
| JMB542006G3B.0Z2-SIRA | 03171233    | 3            | G          | 0,6 | 4,0 | 0,6   | 45,0 | 3,0  | 0,56 | 0,3  | 10,61 | 2     | Cylindrical | ■              |
| JMB542008G3B.0Z2-SIRA | 03171234    | 3            | G          | 0,8 | 4,0 | 0,8   | 45,0 | 4,0  | 0,76 | 0,4  | 9,44  | 2     | Cylindrical | ■              |
| JMB542010G3B.0Z2-SIRA | 03171235    | 3            | G          | 1,0 | 4,0 | 1,0   | 50,0 | 5,0  | 0,95 | 0,5  | 8,38  | 2     | Cylindrical | ■              |
| JMB542012G3B.0Z2-SIRA | 03171236    | 3            | G          | 1,2 | 4,0 | 1,2   | 50,0 | 6,0  | 1,15 | 0,6  | 7,44  | 2     | Cylindrical | ■              |
| JMB542015G3B.0Z2-SIRA | 03171237    | 3            | G          | 1,5 | 4,0 | 1,5   | 50,0 | 7,5  | 1,45 | 0,75 | 6,13  | 2     | Cylindrical | ■              |
| JMB542020G3B.0Z2-SIRA | 03171238    | 3            | G          | 2,0 | 4,0 | 2,0   | 50,0 | 10,0 | 1,94 | 1,0  | 4,4   | 2     | Cylindrical | ■              |
| JMB542030G3B.0Z2-SIRA | 03171240    | 3            | G          | 3,0 | 4,0 | 3,0   | 60,0 | 15,0 | 2,85 | 1,5  | 1,81  | 2     | Cylindrical | ■              |
| JMB542005G4B.0Z2-SIRA | 03171241    | 4            | G          | 0,5 | 4,0 | 0,5   | 45,0 | 4,0  | 0,46 | 0,25 | 9,65  | 2     | Cylindrical | ■              |
| JMB542006G4B.0Z2-SIRA | 03171242    | 4            | G          | 0,6 | 4,0 | 0,6   | 45,0 | 5,0  | 0,56 | 0,3  | 8,74  | 2     | Cylindrical | ■              |
| JMB542008G4B.0Z2-SIRA | 03171243    | 4            | G          | 0,8 | 4,0 | 0,8   | 45,0 | 7,0  | 0,76 | 0,4  | 7,23  | 2     | Cylindrical | ■              |
| JMB542010G4B.0Z2-SIRA | 03171244    | 4            | G          | 1,0 | 4,0 | 1,0   | 50,0 | 8,5  | 0,95 | 0,5  | 6,27  | 2     | Cylindrical | ■              |
| JMB542012G4B.0Z2-SIRA | 03171245    | 4            | G          | 1,2 | 4,0 | 1,2   | 50,0 | 10,0 | 1,15 | 0,6  | 5,44  | 2     | Cylindrical | ■              |
| JMB542015G4B.0Z2-SIRA | 03171246    | 4            | G          | 1,5 | 4,0 | 1,5   | 50,0 | 12,0 | 1,45 | 0,75 | 4,44  | 2     | Cylindrical | ■              |
| JMB542020G4B.0Z2-SIRA | 03171247    | 4            | G          | 2,0 | 4,0 | 2,0   | 60,0 | 16,0 | 1,94 | 1,0  | 3,02  | 2     | Cylindrical | ■              |
| JMB542030G4B.0Z2-SIRA | 03171249    | 4            | G          | 3,0 | 4,0 | 3,0   | 70,0 | 24,0 | 2,85 | 1,5  | 1,16  | 2     | Cylindrical | ■              |
| JMB542015G5B.0Z2-SIRA | 03171250    | 5            | G          | 1,5 | 4,0 | 1,5   | 60,0 | 15,0 | 1,45 | 0,75 | 3,75  | 2     | Cylindrical | ■              |
| JMB542020G5B.0Z2-SIRA | 03171251    | 5            | G          | 2,0 | 4,0 | 2,0   | 60,0 | 20,0 | 1,94 | 1,0  | 2,5   | 2     | Cylindrical | ■              |
| JMB542030G5B.0Z2-SIRA | 03171253    | 5            | G          | 3,0 | 4,0 | 3,0   | 70,0 | 30,0 | 2,85 | 1,5  | 0,93  | 2     | Cylindrical | ■              |
| JMB542015G6B.0Z2-SIRA | 03171254    | 6            | G          | 1,5 | 4,0 | 1,5   | 70,0 | 22,5 | 1,45 | 0,75 | 2,7   | 2     | Cylindrical | ■              |
| JMB542020G6B.0Z2-SIRA | 03171255    | 6            | G          | 2,0 | 4,0 | 2,0   | 70,0 | 30,0 | 1,94 | 1,0  | 1,74  | 2     | Cylindrical | ■              |
| JMB542030G6B.0Z2-SIRA | 03171257    | 6            | G          | 3,0 | 4,0 | 3,0   | 90,0 | 45,0 | 2,85 | 1,5  | 0,63  | 2     | Cylindrical | ■              |

■ Stocked standard.



### Cutting data – JMB542 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$     | $f_z$             |                   |                   |                   |                   |                  |                  |                  |                 |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|------------------|--------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                  |              | 0.2               | 0.3               | 0.4               | 0.5               | 0.6               | 0.8              | 1.0              | 1.2              | 1.8             | 2.0             | 2.5             | 3.0             |                                       |
| P1  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 365 (330 — 400)<br>1200 (1100 — 1300) |
| P2  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 355 (320 — 390)<br>1175 (1100 — 1200) |
| P3  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 305 (280 — 330)<br>1000 (920 — 1000)  |
| P4  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 270 (240 — 290)<br>890 (790 — 950)    |
| P5  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 255 (230 — 280)<br>840 (760 — 910)    |
| P6  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 290 (260 — 310)<br>950 (860 — 1000)   |
| P7  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 270 (250 — 300)<br>890 (830 — 980)    |
| P8  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 255 (230 — 280)<br>840 (760 — 910)    |
| P11 | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 265 (240 — 290)<br>870 (790 — 950)    |
| P12 | M/E/A                                                                             | 0.0500<br>0,0500 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 155 (140 — 170)<br>510 (460 — 550)    |
| M1  | E/M/A                                                                             | 0.0250<br>0,0250 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 215 (180 — 250)<br>710 (600 — 820)    |
| M2  | E/M/A                                                                             | 0.0250<br>0,0250 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 175 (150 — 200)<br>570 (500 — 650)    |
| M3  | E/M/A                                                                             | 0.0250<br>0,0250 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 175 (150 — 200)<br>570 (500 — 650)    |
| M4  | E/M/A                                                                             | 0.0250<br>0,0250 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 130 (110 — 150)<br>425 (370 — 490)    |
| M5  | E/M/A                                                                             | 0.0250<br>0,0250 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 110 (90 — 120)<br>360 (300 — 390)     |
| N1  | E/M/A                                                                             | 0.100<br>0,100   | 0.75<br>0,75 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 485 (430 — 540)<br>1600 (1500 — 1700) |
| N2  | E/M/A                                                                             | 0.100<br>0,100   | 0.75<br>0,75 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 485 (430 — 540)<br>1600 (1500 — 1700) |
| N3  | E/M/A                                                                             | 0.100<br>0,100   | 0.75<br>0,75 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 325 (290 — 360)<br>1075 (960 — 1100)  |
| N11 | E/M/A                                                                             | 0.100<br>0,100   | 0.75<br>0,75 | 0.0050<br>0,00020 | 0.0075<br>0,00030 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 430 (370 — 480)<br>1400 (1300 — 1500) |
| S11 | E/M/A                                                                             | 0.0250<br>0,0250 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 290 (250 — 330)<br>950 (830 — 1000)   |
| S12 | E/M/A                                                                             | 0.0250<br>0,0250 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 225 (200 — 250)<br>740 (660 — 820)    |
| S13 | E/M/A                                                                             | 0.0250<br>0,0250 | 0.60<br>0,60 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 175 (150 — 190)<br>570 (500 — 620)    |
| H3  | M/A                                                                               | 0.0500<br>0,0500 | 0.30<br>0,30 | 0.0036<br>0,00014 | 0.0055<br>0,00022 | 0.0070<br>0,00028 | 0.0090<br>0,00036 | 0.011<br>0,00044  | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.032<br>0,0013 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 120 (90 — 140)<br>395 (300 — 450)     |
| H5  | M/A                                                                               | 0.0500<br>0,0500 | 0.44<br>0,44 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 235 (210 — 260)<br>770 (690 — 850)    |
| H7  | M/A                                                                               | 0.0500<br>0,0500 | 0.30<br>0,30 | 0.0036<br>0,00014 | 0.0055<br>0,00022 | 0.0070<br>0,00028 | 0.0090<br>0,00036 | 0.011<br>0,00044  | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.032<br>0,0013 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 120 (90 — 140)<br>395 (300 — 450)     |
| H8  | M/A                                                                               | 0.0500<br>0,0500 | 0.44<br>0,44 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 235 (210 — 260)<br>770 (690 — 850)    |
| H11 | M/A                                                                               | 0.0500<br>0,0500 | 0.44<br>0,44 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 300 (270 — 330)<br>980 (890 — 1000)   |
| H12 | M/A                                                                               | 0.0500<br>0,0500 | 0.44<br>0,44 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 275 (240 — 300)<br>900 (790 — 980)    |
| H21 | M/A                                                                               | 0.0500<br>0,0500 | 0.44<br>0,44 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 235 (210 — 260)<br>770 (690 — 850)    |
| H31 | M/A                                                                               | 0.0500<br>0,0500 | 0.44<br>0,44 | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 180 (160 — 200)<br>590 (530 — 650)    |
| GR1 | A                                                                                 | 0.500<br>0,500   | 0.50<br>0,50 | 0.0030<br>0,00012 | 0.0044<br>0,00017 | 0.0060<br>0,00024 | 0.0075<br>0,00030 | 0.0090<br>0,00036 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.028<br>0,0011 | 0.030<br>0,0012 | 0.038<br>0,0015 | 0.040<br>0,0016 | 405 (350 — 460)<br>1325 (1200 — 1500) |

Table based on LV1, please recalc based on length version chosen. See page(s) 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

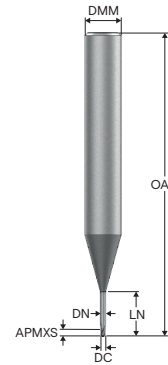
All cutting data are target values





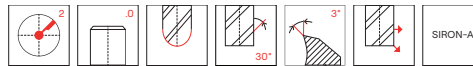
## JMB562

Miniature – Universal – Ball nose – 2 Flutes – DMM 6 – Cylindrical



G

- Tolerances:
- Run-out = < 0,007 mm
- DMM = h5
- DC = 0, -0,01 mm
- RE = ± 0,005 mm



| Designation           | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°   | PCEDC | Shank       | Stock standard |
|-----------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|-------|-------|-------------|----------------|
|                       |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm   |       |       |             |                |
| JMB562005G2B.0Z2-SIRA | 03171261    | 2            | G          | 0,5 | 6,0 | 0,5   | 50,0 | 1,5  | 0,46 | 0,25 | 13,69 | 2     | Cylindrical | ■              |
| JMB562006G2B.0Z2-SIRA | 03171262    | 2            | G          | 0,6 | 6,0 | 0,6   | 50,0 | 2,0  | 0,56 | 0,3  | 13,13 | 2     | Cylindrical | ■              |
| JMB562008G2B.0Z2-SIRA | 03171263    | 2            | G          | 0,8 | 6,0 | 0,8   | 50,0 | 2,5  | 0,76 | 0,4  | 12,6  | 2     | Cylindrical | ■              |
| JMB562010G2B.0Z2-SIRA | 03171264    | 2            | G          | 1,0 | 6,0 | 1,0   | 50,0 | 4,0  | 0,95 | 0,5  | 11,15 | 2     | Cylindrical | ■              |
| JMB562012G2B.0Z2-SIRA | 03171265    | 2            | G          | 1,2 | 6,0 | 1,2   | 50,0 | 4,5  | 1,15 | 0,6  | 10,67 | 2     | Cylindrical | ■              |
| JMB562015G2B.0Z2-SIRA | 03171266    | 2            | G          | 1,5 | 6,0 | 1,5   | 50,0 | 5,0  | 1,45 | 0,75 | 10,07 | 2     | Cylindrical | ■              |
| JMB562018G2B.0Z2-SIRA | 03171267    | 2            | G          | 1,8 | 6,0 | 1,8   | 50,0 | 5,4  | 1,75 | 0,9  | 9,61  | 2     | Cylindrical | ■              |
| JMB562020G2B.0Z2-SIRA | 03171268    | 2            | G          | 2,0 | 6,0 | 2,0   | 50,0 | 6,0  | 1,94 | 1,0  | 9,05  | 2     | Cylindrical | ■              |
| JMB562025G2B.0Z2-SIRA | 03171269    | 2            | G          | 2,5 | 6,0 | 2,5   | 60,0 | 7,5  | 2,4  | 1,25 | 7,71  | 2     | Cylindrical | ■              |
| JMB562030G2B.0Z2-SIRA | 03171270    | 2            | G          | 3,0 | 6,0 | 3,0   | 60,0 | 9,0  | 2,85 | 1,5  | 6,35  | 2     | Cylindrical | ■              |
| JMB562005G4B.0Z2-SIRA | 03171271    | 4            | G          | 0,5 | 6,0 | 0,5   | 50,0 | 3,5  | 0,46 | 0,25 | 11,7  | 2     | Cylindrical | ■              |
| JMB562006G4B.0Z2-SIRA | 03171272    | 4            | G          | 0,6 | 6,0 | 0,6   | 50,0 | 4,2  | 0,56 | 0,3  | 11,1  | 2     | Cylindrical | ■              |
| JMB562008G4B.0Z2-SIRA | 03171273    | 4            | G          | 0,8 | 6,0 | 0,8   | 50,0 | 5,6  | 0,76 | 0,4  | 10,02 | 2     | Cylindrical | ■              |
| JMB562010G4B.0Z2-SIRA | 03171274    | 4            | G          | 1,0 | 6,0 | 1,0   | 50,0 | 7,0  | 0,95 | 0,5  | 9,06  | 2     | Cylindrical | ■              |
| JMB562012G4B.0Z2-SIRA | 03171275    | 4            | G          | 1,2 | 6,0 | 1,2   | 50,0 | 8,4  | 1,15 | 0,6  | 8,22  | 2     | Cylindrical | ■              |
| JMB562015G4B.0Z2-SIRA | 03171276    | 4            | G          | 1,5 | 6,0 | 1,5   | 50,0 | 10,5 | 1,45 | 0,75 | 7,07  | 2     | Cylindrical | ■              |
| JMB562020G4B.0Z2-SIRA | 03171277    | 4            | G          | 2,0 | 6,0 | 2,0   | 60,0 | 14,0 | 1,94 | 1,0  | 5,57  | 2     | Cylindrical | ■              |
| JMB562030G4B.0Z2-SIRA | 03171279    | 4            | G          | 3,0 | 6,0 | 3,0   | 70,0 | 21,0 | 2,85 | 1,5  | 3,38  | 2     | Cylindrical | ■              |
| JMB562005G5B.0Z2-SIRA | 03171280    | 5            | G          | 0,5 | 6,0 | 0,5   | 50,0 | 5,0  | 0,46 | 0,25 | 10,54 | 2     | Cylindrical | ■              |
| JMB562006G5B.0Z2-SIRA | 03171281    | 5            | G          | 0,6 | 6,0 | 0,6   | 50,0 | 6,0  | 0,56 | 0,3  | 9,85  | 2     | Cylindrical | ■              |
| JMB562008G5B.0Z2-SIRA | 03171282    | 5            | G          | 0,8 | 6,0 | 0,8   | 50,0 | 8,0  | 0,76 | 0,4  | 8,64  | 2     | Cylindrical | ■              |
| JMB562010G5B.0Z2-SIRA | 03171283    | 5            | G          | 1,0 | 6,0 | 1,0   | 50,0 | 10,0 | 0,95 | 0,5  | 7,63  | 2     | Cylindrical | ■              |
| JMB562012G5B.0Z2-SIRA | 03171284    | 5            | G          | 1,2 | 6,0 | 1,2   | 50,0 | 12,0 | 1,15 | 0,6  | 6,77  | 2     | Cylindrical | ■              |
| JMB562015G5B.0Z2-SIRA | 03171285    | 5            | G          | 1,5 | 6,0 | 1,5   | 60,0 | 15,0 | 1,45 | 0,75 | 5,68  | 2     | Cylindrical | ■              |
| JMB562020G5B.0Z2-SIRA | 03171287    | 5            | G          | 2,0 | 6,0 | 2,0   | 60,0 | 20,0 | 1,94 | 1,0  | 4,32  | 2     | Cylindrical | ■              |
| JMB562030G5B.0Z2-SIRA | 03171289    | 5            | G          | 3,0 | 6,0 | 3,0   | 70,0 | 30,0 | 2,85 | 1,5  | 2,5   | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cf/np

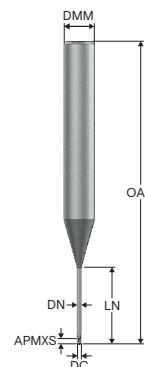
Graphite

X-Heads

Minimaster

## JMB562

Miniature – Universal – Ball nose – 2 Flutes – DMM 6 – Cylindrical



G

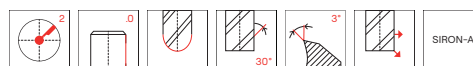
—Tolerances:

—Run-out=&lt;0,007 mm

—DMM= h5

—DC= 0,-0,01 mm

—RE= ±0,005 mm



| Designation           | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL   | LN   | DN   | RE   | CA°  | PCEDC | Shank       | Stock standard |
|-----------------------|-------------|--------------|------------|-----|-----|-------|-------|------|------|------|------|-------|-------------|----------------|
| JMB562010G6B.0Z2-SIRA | 03171290    | 6            | G          | 1,0 | 6,0 | 1,0   | 60,0  | 15,0 | 0,95 | 0,5  | 6,04 | 2     | Cylindrical | ■              |
| JMB562012G6B.0Z2-SIRA | 03171291    | 6            | G          | 1,2 | 6,0 | 1,2   | 60,0  | 18,0 | 1,15 | 0,6  | 5,24 | 2     | Cylindrical | ■              |
| JMB562015G6B.0Z2-SIRA | 03171292    | 6            | G          | 1,5 | 6,0 | 1,5   | 70,0  | 22,5 | 1,45 | 0,75 | 4,28 | 2     | Cylindrical | ■              |
| JMB562020G6B.0Z2-SIRA | 03171293    | 6            | G          | 2,0 | 6,0 | 2,0   | 80,0  | 30,0 | 1,94 | 1,0  | 3,14 | 2     | Cylindrical | ■              |
| JMB562030G6B.0Z2-SIRA | 03171295    | 6            | G          | 3,0 | 6,0 | 3,0   | 90,0  | 45,0 | 2,85 | 1,5  | 1,74 | 2     | Cylindrical | ■              |
| JMB562010G7B.0Z2-SIRA | 03171296    | 7            | G          | 1,0 | 6,0 | 1,0   | 60,0  | 20,0 | 0,95 | 0,5  | 4,99 | 2     | Cylindrical | ■              |
| JMB562012G7B.0Z2-SIRA | 03171297    | 7            | G          | 1,2 | 6,0 | 1,2   | 80,0  | 24,0 | 1,15 | 0,6  | 4,27 | 2     | Cylindrical | ■              |
| JMB562015G7B.0Z2-SIRA | 03171298    | 7            | G          | 1,5 | 6,0 | 1,5   | 80,0  | 30,0 | 1,45 | 0,75 | 3,43 | 2     | Cylindrical | ■              |
| JMB562020G7B.0Z2-SIRA | 03171299    | 7            | G          | 2,0 | 6,0 | 2,0   | 80,0  | 40,0 | 1,94 | 1,0  | 2,47 | 2     | Cylindrical | ■              |
| JMB562030G7B.0Z2-SIRA | 03171301    | 7            | G          | 3,0 | 6,0 | 3,0   | 100,0 | 60,0 | 2,85 | 1,5  | 1,34 | 2     | Cylindrical | ■              |

■ Stocked standard.

## Cutting data – JMB562 Copy milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                   |                   |                   |                  |                  |                  |                 |                 |                 |                 | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                    |                    | 0.2               | 0.3               | 0.4               | 0.5               | 0.6               | 0.8              | 1.0              | 1.2              | 1.8             | 2.0             | 2.5             | 3.0             |                                       |
| P1  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 365 (330 — 400)<br>1200 (1100 — 1300) |
| P2  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 355 (320 — 390)<br>1175 (1100 — 1200) |
| P3  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 305 (280 — 330)<br>1000 (920 — 1000)  |
| P4  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 270 (240 — 290)<br>890 (790 — 950)    |
| P5  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 255 (230 — 280)<br>840 (760 — 910)    |
| P6  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 290 (260 — 310)<br>950 (860 — 1000)   |
| P7  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 270 (250 — 300)<br>890 (830 — 980)    |
| P8  | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 255 (230 — 280)<br>840 (760 — 910)    |
| P11 | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 265 (240 — 290)<br>870 (790 — 950)    |
| P12 | M/E/A                                                                             | 0.0500<br>0,0500   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 155 (140 — 170)<br>510 (460 — 550)    |
| M1  | E/M/A                                                                             | 0.0250<br>0,0250   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 215 (180 — 250)<br>710 (600 — 820)    |
| M2  | E/M/A                                                                             | 0.0250<br>0,0250   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 175 (150 — 200)<br>570 (500 — 650)    |
| M3  | E/M/A                                                                             | 0.0250<br>0,0250   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 175 (150 — 200)<br>570 (500 — 650)    |
| M4  | E/M/A                                                                             | 0.0250<br>0,0250   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 130 (110 — 150)<br>425 (370 — 490)    |
| M5  | E/M/A                                                                             | 0.0250<br>0,0250   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 110 (90 — 120)<br>360 (300 — 390)     |
| N1  | E/M/A                                                                             | 0.100<br>0,100     | 0.75<br>0,75       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 485 (430 — 540)<br>1600 (1500 — 1700) |
| N2  | E/M/A                                                                             | 0.100<br>0,100     | 0.75<br>0,75       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 485 (430 — 540)<br>1600 (1500 — 1700) |
| N3  | E/M/A                                                                             | 0.100<br>0,100     | 0.75<br>0,75       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 325 (290 — 360)<br>1075 (960 — 1100)  |
| N11 | E/M/A                                                                             | 0.100<br>0,100     | 0.75<br>0,75       | 0.0050<br>0,00020 | 0.0075<br>0,00030 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 430 (370 — 480)<br>1400 (1300 — 1500) |
| S11 | E/M/A                                                                             | 0.0250<br>0,0250   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 290 (250 — 330)<br>950 (830 — 1000)   |
| S12 | E/M/A                                                                             | 0.0250<br>0,0250   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 225 (200 — 250)<br>740 (660 — 820)    |
| S13 | E/M/A                                                                             | 0.0250<br>0,0250   | 0.60<br>0,60       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 175 (150 — 190)<br>570 (500 — 620)    |
| H3  | M/A                                                                               | 0.0500<br>0,0500   | 0.30<br>0,30       | 0.0036<br>0,00014 | 0.0055<br>0,00022 | 0.0070<br>0,00028 | 0.0090<br>0,00036 | 0.011<br>0,00044  | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.032<br>0,0013 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 120 (90 — 140)<br>395 (300 — 450)     |
| H5  | M/A                                                                               | 0.0500<br>0,0500   | 0.44<br>0,44       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 235 (210 — 260)<br>770 (690 — 850)    |
| H7  | M/A                                                                               | 0.0500<br>0,0500   | 0.30<br>0,30       | 0.0036<br>0,00014 | 0.0055<br>0,00022 | 0.0070<br>0,00028 | 0.0090<br>0,00036 | 0.011<br>0,00044  | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.032<br>0,0013 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 120 (90 — 140)<br>395 (300 — 450)     |
| H8  | M/A                                                                               | 0.0500<br>0,0500   | 0.44<br>0,44       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 235 (210 — 260)<br>770 (690 — 850)    |
| H11 | M/A                                                                               | 0.0500<br>0,0500   | 0.44<br>0,44       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 300 (270 — 330)<br>980 (890 — 1000)   |
| H12 | M/A                                                                               | 0.0500<br>0,0500   | 0.44<br>0,44       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 275 (240 — 300)<br>900 (790 — 980)    |
| H21 | M/A                                                                               | 0.0500<br>0,0500   | 0.44<br>0,44       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 235 (210 — 260)<br>770 (690 — 850)    |
| H31 | M/A                                                                               | 0.0500<br>0,0500   | 0.44<br>0,44       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 180 (160 — 200)<br>590 (530 — 650)    |
| GR1 | A                                                                                 | 0.500<br>0,500     | 0.50<br>0,50       | 0.0030<br>0,00012 | 0.0044<br>0,00017 | 0.0060<br>0,00024 | 0.0075<br>0,00030 | 0.0090<br>0,00036 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.028<br>0,0011 | 0.030<br>0,0012 | 0.038<br>0,0015 | 0.040<br>0,0016 | 405 (350 — 460)<br>1325 (1200 — 1500) |

Table based on LV1, please recalc based on length version chosen. See page(s) 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub>= m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

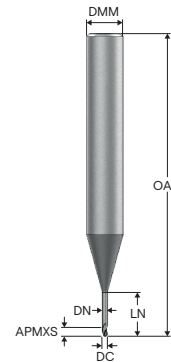
a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values



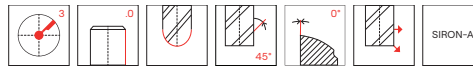
## JMB563

Miniature – Universal – Ball nose – 3 Flutes – DMM 6 – Cylindrical



G

- Tolerances:
- Run-out=<0,007 mm
- DMM= h5
- DC= 0,-0,02 mm
- RE= ±0,01 mm



| Designation           | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°   | PCEDC | Shank       | Stock standard |
|-----------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|-------|-------|-------------|----------------|
|                       |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm   |       |       |             |                |
| JMB563010G2B.0Z3-SIRA | 03171307    | 2            | G          | 1,0 | 6,0 | 1,0   | 50,0 | 4,0  | 0,95 | 0,5  | 11,15 | 3     | Cylindrical | ■              |
| JMB563012G2B.0Z3-SIRA | 03171308    | 2            | G          | 1,2 | 6,0 | 1,2   | 50,0 | 4,5  | 1,15 | 0,6  | 10,67 | 3     | Cylindrical | ■              |
| JMB563015G2B.0Z3-SIRA | 03171309    | 2            | G          | 1,5 | 6,0 | 1,5   | 50,0 | 5,0  | 1,45 | 0,75 | 10,07 | 3     | Cylindrical | ■              |
| JMB563020G2B.0Z3-SIRA | 03171310    | 2            | G          | 2,0 | 6,0 | 2,0   | 50,0 | 6,0  | 1,94 | 1,0  | 9,05  | 3     | Cylindrical | ■              |
| JMB563025G2B.0Z3-SIRA | 03171311    | 2            | G          | 2,5 | 6,0 | 2,5   | 60,0 | 7,5  | 2,4  | 1,25 | 7,71  | 3     | Cylindrical | ■              |
| JMB563030G2B.0Z3-SIRA | 03171312    | 2            | G          | 3,0 | 6,0 | 3,0   | 60,0 | 9,0  | 2,85 | 1,5  | 6,35  | 3     | Cylindrical | ■              |
| JMB563010G4B.0Z3-SIRA | 03171316    | 4            | G          | 1,0 | 6,0 | 1,0   | 50,0 | 7,0  | 0,95 | 0,5  | 9,06  | 3     | Cylindrical | ■              |
| JMB563012G4B.0Z3-SIRA | 03171317    | 4            | G          | 1,2 | 6,0 | 1,2   | 50,0 | 8,4  | 1,15 | 0,6  | 8,22  | 3     | Cylindrical | ■              |
| JMB563015G4B.0Z3-SIRA | 03171318    | 4            | G          | 1,5 | 6,0 | 1,5   | 50,0 | 10,5 | 1,45 | 0,75 | 7,07  | 3     | Cylindrical | ■              |
| JMB563020G4B.0Z3-SIRA | 03171319    | 4            | G          | 2,0 | 6,0 | 2,0   | 60,0 | 14,0 | 1,94 | 1,0  | 5,57  | 3     | Cylindrical | ■              |
| JMB563030G4B.0Z3-SIRA | 03171321    | 4            | G          | 3,0 | 6,0 | 3,0   | 70,0 | 21,0 | 2,85 | 1,5  | 3,38  | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JMB563 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$       | $f_z$            |                  |                  |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|------------------|----------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                  |                | 1                | 1.2              | 1.5              | 2.0             | 2.5             | 3.0             |                                       |
| P1  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 460 (410 — 500)<br>1500 (1400 — 1600) |
| P2  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 445 (400 — 490)<br>1450 (1400 — 1600) |
| P3  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 385 (350 — 420)<br>1275 (1200 — 1300) |
| P4  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 340 (310 — 370)<br>1125 (1100 — 1200) |
| P5  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 325 (290 — 350)<br>1075 (960 — 1100)  |
| P6  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 365 (330 — 400)<br>1200 (1100 — 1300) |
| P7  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 340 (310 — 380)<br>1125 (1100 — 1200) |
| P8  | M/E/A                                                                             | 0.0500<br>0,0500 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 325 (290 — 350)<br>1075 (960 — 1100)  |
| P11 | M/E/A                                                                             | 0.0250<br>0,0250 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 230 (190 — 270)<br>750 (630 — 880)    |
| P12 | M/E/A                                                                             | 0.0250<br>0,0250 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 135 (120 — 160)<br>445 (400 — 520)    |
| M1  | E/M/A                                                                             | 0.0250<br>0,0250 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 270 (230 — 320)<br>890 (760 — 1000)   |
| M2  | E/M/A                                                                             | 0.0250<br>0,0250 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 220 (180 — 250)<br>720 (600 — 820)    |
| M3  | E/M/A                                                                             | 0.0250<br>0,0250 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 220 (180 — 250)<br>720 (600 — 820)    |
| M4  | E/M/A                                                                             | 0.0250<br>0,0250 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 165 (140 — 190)<br>540 (460 — 620)    |
| M5  | E/M/A                                                                             | 0.0250<br>0,0250 | 0.38<br>0,38   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 135 (120 — 160)<br>445 (400 — 520)    |
| N1  | E/M/A                                                                             | 0.100<br>0,100   | 0.65<br>0,65   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 590 (520 — 660)<br>1925 (1800 — 2100) |
| N2  | E/M/A                                                                             | 0.100<br>0,100   | 0.65<br>0,65   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 590 (520 — 660)<br>1925 (1800 — 2100) |
| N3  | E/M/A                                                                             | 0.100<br>0,100   | 0.65<br>0,65   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 395 (350 — 440)<br>1300 (1200 — 1400) |
| N11 | E/M/A                                                                             | 0.100<br>0,100   | 0.65<br>0,65   | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.038<br>0,0015  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 520 (450 — 590)<br>1700 (1500 — 1900) |
| S11 | E/M/A                                                                             | 0.0250<br>0,0250 | 0.46<br>0,46   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 345 (300 — 390)<br>1125 (990 — 1200)  |
| S12 | E/M/A                                                                             | 0.0250<br>0,0250 | 0.46<br>0,46   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 265 (230 — 300)<br>870 (760 — 980)    |
| S13 | E/M/A                                                                             | 0.0250<br>0,0250 | 0.46<br>0,46   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 205 (180 — 230)<br>670 (600 — 750)    |
| H3  | M/A                                                                               | 0.0250<br>0,0250 | 0.095<br>0,095 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.026<br>0,0010  | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 155 (120 — 190)<br>510 (400 — 620)    |
| H5  | M/A                                                                               | 0.0500<br>0,0500 | 0.22<br>0,22   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 295 (260 — 330)<br>970 (860 — 1000)   |
| H7  | M/A                                                                               | 0.0250<br>0,0250 | 0.095<br>0,095 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.026<br>0,0010  | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 155 (120 — 190)<br>510 (400 — 620)    |
| H8  | M/A                                                                               | 0.0500<br>0,0500 | 0.22<br>0,22   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 295 (260 — 330)<br>970 (860 — 1000)   |
| H11 | M/A                                                                               | 0.0500<br>0,0500 | 0.22<br>0,22   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 375 (330 — 420)<br>1225 (1100 — 1300) |
| H12 | M/A                                                                               | 0.0500<br>0,0500 | 0.22<br>0,22   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 345 (310 — 380)<br>1125 (1100 — 1200) |
| H21 | M/A                                                                               | 0.0500<br>0,0500 | 0.22<br>0,22   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 295 (260 — 330)<br>970 (860 — 1000)   |
| H31 | M/A                                                                               | 0.0500<br>0,0500 | 0.22<br>0,22   | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 225 (200 — 250)<br>740 (660 — 820)    |
| GR1 | A                                                                                 | 0.500<br>0,500   | 0.50<br>0,50   | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.030<br>0,0012 | 0.038<br>0,0015 | 0.040<br>0,0016 | 450 (390 — 510)<br>1475 (1300 — 1600) |

Table based on LV1, please recalc based on length version chosen. See page(s)

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values



## STEEL AND CAST IRON

Seco offers a complete range of high performance solid carbide square shoulder end mills, ballnose cutters and finish end mills for high productivity in steel and cast iron.

- ST5541, JHP993, JHP951 and JH142 for chamfer or radius type.
- ST5341, JHB970, JH112, JH150, JH160 for ball-nose type.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Tool selection Steel and cast iron

|                     |             |    |    |    |    |    |    |
|---------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                     |             |    |    |    |    |    |    |
| Name                |             | ST5541                                                                              | JHP993                                                                              | JHP951                                                                              | JH142                                                                                | ST5341                                                                                | JHB970                                                                                |
| Page(s)             |             | 276                                                                                 | 293                                                                                 | 299                                                                                 | 303, 514                                                                             | 306                                                                                   | 228, 311                                                                              |
| Family name         |             | Stabilizer                                                                          | HPM                                                                                 | HPM                                                                                 | HSM/TORNADO                                                                          | Stabilizer                                                                            | HSM/TORNADO                                                                           |
| Type of mill        |             |    |    |    |    |    |    |
| Shank               | Cylindrical |    |    |    |    |    |    |
|                     | Weldon      |    |    |    |                                                                                      |    |                                                                                       |
| Number of Flutes    |             | 4                                                                                   | 3,4,5                                                                               | 3,4,5                                                                               | 2-4-5-6                                                                              | 4                                                                                     | 2                                                                                     |
| CSP                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| Diameter range      | Metric      | 3-25                                                                                | 4-25                                                                                | 3-20                                                                                | 2-12                                                                                 | 6-20                                                                                  | 2-16                                                                                  |
|                     | Inch        | 1/8-1                                                                               |                                                                                     |                                                                                     |                                                                                      | 1/4-1                                                                                 |                                                                                       |
| Length availability |             | 1,2,3,4                                                                             | 2,3                                                                                 | 2                                                                                   | 2,3,6                                                                                | 2,3                                                                                   | 1,2,3                                                                                 |
| Operation           |             |  |  |  |                                                                                      |                                                                                       |                                                                                       |
|                     |             |  |  |  |                                                                                      |                                                                                       |                                                                                       |
|                     |             |                                                                                     |                                                                                     |                                                                                     |  |  |  |
| SMG                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| P1                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| P2                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| P3                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| P4                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| P5                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| P6                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| P7                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| P8                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| P11-12              |             | ●                                                                                   | ○                                                                                   | ○                                                                                   | ●                                                                                    | ●                                                                                     | ○                                                                                     |
| K1                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| K2                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| K3                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| K4                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| K5                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| K6                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| K7                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |

■ Stock standard □ Weldon available, delivery time is 3 days.

● Preferred choice ○ Alternative choice



#### Tool selection Steel and cast iron

|                     |             |                                                                                     |                                                                                     |                                                                                       |
|---------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                     |             |    |    |    |
| Name                |             | JH112                                                                               | JH150                                                                               | JH160                                                                                 |
| Page(s)             |             | 313, 517                                                                            | 520                                                                                 | 522                                                                                   |
| Family name         |             | HSM/TORNADO                                                                         | HSM/TORNADO                                                                         | HSM/TORNADO                                                                           |
| Type of mill        |             |    |    |    |
| Shank               | Cylindrical |    |    |    |
|                     | Weldon      |                                                                                     |                                                                                     |                                                                                       |
| Number of Flutes    |             | 2                                                                                   | 4                                                                                   | 4                                                                                     |
| CSP                 |             |                                                                                     |                                                                                     |                                                                                       |
| Diameter range      | Metric      | 2-12                                                                                | 6-12                                                                                | 3-12                                                                                  |
|                     | Inch        |                                                                                     |                                                                                     |                                                                                       |
| Length availability |             | 1,2,3,4,5,6                                                                         | 2                                                                                   | 2                                                                                     |
| Operation           |             |                                                                                     |                                                                                     |                                                                                       |
|                     |             |                                                                                     |                                                                                     |                                                                                       |
|                     |             |  |  |  |
| SMG                 |             |                                                                                     |                                                                                     |                                                                                       |
| P1                  |             |                                                                                     |                                                                                     | •                                                                                     |
| P2                  |             |                                                                                     |                                                                                     | •                                                                                     |
| P3                  |             |                                                                                     |                                                                                     | •                                                                                     |
| P4                  |             |                                                                                     |                                                                                     | •                                                                                     |
| P5                  |             |                                                                                     |                                                                                     | •                                                                                     |
| P6                  |             |                                                                                     |                                                                                     | •                                                                                     |
| P7                  |             |                                                                                     |                                                                                     | •                                                                                     |
| P8                  |             |                                                                                     |                                                                                     | •                                                                                     |
| P11-12              |             |                                                                                     |                                                                                     | ○                                                                                     |
| K1                  |             | •                                                                                   | •                                                                                   |                                                                                       |
| K2                  |             | •                                                                                   | •                                                                                   |                                                                                       |
| K3                  |             | •                                                                                   | •                                                                                   |                                                                                       |
| K4                  |             | •                                                                                   | •                                                                                   |                                                                                       |
| K5                  |             | •                                                                                   | •                                                                                   |                                                                                       |
| K6                  |             | •                                                                                   | •                                                                                   |                                                                                       |
| K7                  |             | •                                                                                   | •                                                                                   |                                                                                       |

■ Stock standard □ Weldon available, delivery time is 3 days.

• Preferred choice ○ Alternative choice

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

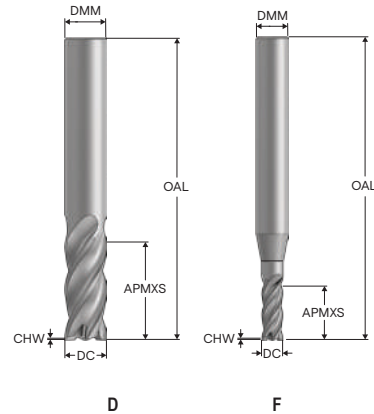
Graphite

X-Heads

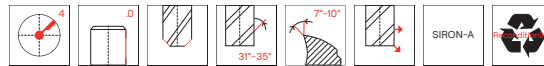
Minimaster

### ST5541

High performance – Steel – Square – 4 Flutes – Cylindrical – Chamfer



—Tolerances:  
—DMM=h5  
—DC=e7  
—Reground possible if DC is  $\geq \varnothing 6$

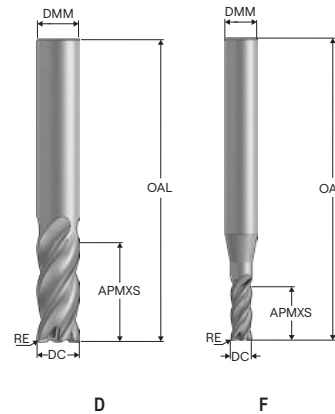


| Designation       | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank       | Stock standard |
|-------------------|-------|-------------|--------------|------------|------|------|-------|-------|-------|-------|-------------|----------------|
| ST5541-030F2C.0Z4 | SIRA  | 10302942    | 2            | F          | mm   | mm   | mm    | mm    | mm    |       |             |                |
| ST5541-040F2C.0Z4 | SIRA  | 10302943    | 2            | F          | 3,0  | 6,0  | 7,0   | 58,0  | 0,035 | 4     | Cylindrical | ■              |
| ST5541-050F2C.0Z4 | SIRA  | 10302944    | 2            | F          | 4,0  | 6,0  | 10,0  | 58,0  | 0,045 | 4     | Cylindrical | ■              |
| ST5541-060D2C.0Z4 | SIRA  | 10302945    | 2            | D          | 5,0  | 6,0  | 12,0  | 58,0  | 0,055 | 4     | Cylindrical | ■              |
| ST5541-080D2C.0Z4 | SIRA  | 10302946    | 2            | D          | 6,0  | 6,0  | 14,0  | 58,0  | 0,075 | 4     | Cylindrical | ■              |
| ST5541-100D2C.0Z4 | SIRA  | 10302947    | 2            | D          | 8,0  | 8,0  | 18,0  | 64,0  | 0,1   | 4     | Cylindrical | ■              |
| ST5541-120D2C.0Z4 | SIRA  | 10302948    | 2            | D          | 10,0 | 10,0 | 22,0  | 73,0  | 0,125 | 4     | Cylindrical | ■              |
| ST5541-160D2C.0Z4 | SIRA  | 10302949    | 2            | D          | 12,0 | 12,0 | 26,0  | 84,0  | 0,15  | 4     | Cylindrical | ■              |
| ST5541-200D2C.0Z4 | SIRA  | 10302950    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 0,2   | 4     | Cylindrical | ■              |
| ST5541-250D2C.0Z4 | SIRA  | 10302951    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 0,25  | 4     | Cylindrical | ■              |
| ST5541-030F3C.0Z4 | SIRA  | 10302952    | 3            | F          | 25,0 | 25,0 | 52,0  | 125,0 | 0,3   | 4     | Cylindrical | ■              |
| ST5541-040F3C.0Z4 | SIRA  | 10302953    | 3            | F          | 3,0  | 6,0  | 9,0   | 58,0  | 0,035 | 4     | Cylindrical | ■              |
| ST5541-050F3C.0Z4 | SIRA  | 10302954    | 3            | F          | 4,0  | 6,0  | 12,0  | 58,0  | 0,045 | 4     | Cylindrical | ■              |
| ST5541-060D3C.0Z4 | SIRA  | 10302955    | 3            | D          | 5,0  | 6,0  | 15,0  | 58,0  | 0,055 | 4     | Cylindrical | ■              |
| ST5541-080D3C.0Z4 | SIRA  | 10302956    | 3            | D          | 6,0  | 6,0  | 18,0  | 64,0  | 0,075 | 4     | Cylindrical | ■              |
| ST5541-100D3C.0Z4 | SIRA  | 10302957    | 3            | D          | 8,0  | 8,0  | 24,0  | 73,0  | 0,1   | 4     | Cylindrical | ■              |
| ST5541-120D3C.0Z4 | SIRA  | 10302958    | 3            | D          | 10,0 | 10,0 | 30,0  | 85,0  | 0,125 | 4     | Cylindrical | ■              |
| ST5541-160D3C.0Z4 | SIRA  | 10302959    | 3            | D          | 12,0 | 12,0 | 36,0  | 100,0 | 0,15  | 4     | Cylindrical | ■              |
| ST5541-200D3C.0Z4 | SIRA  | 10302960    | 3            | D          | 16,0 | 16,0 | 48,0  | 115,0 | 0,2   | 4     | Cylindrical | ■              |
| ST5541-250D3C.0Z4 | SIRA  | 10302961    | 3            | D          | 20,0 | 20,0 | 60,0  | 125,0 | 0,25  | 4     | Cylindrical | ■              |
| ST5541-250D3C.0Z4 | SIRA  | 10302961    | 3            | D          | 25,0 | 25,0 | 75,0  | 155,0 | 0,3   | 4     | Cylindrical | ■              |

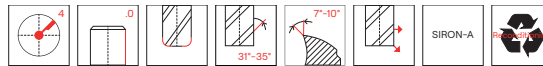
■ Stocked standard.

## ST5541

High performance – Steel – Square – 4 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Regrind possible if DC is ≥Ø6



| Designation          | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-------------|----------------|
|                      |       |             |              |            | mm   | mm   | mm    | mm    | mm  |       |             |                |
| ST5541-030F2R020.0Z4 | SIRA  | 10302962    | 2            | F          | 3,0  | 6,0  | 7,0   | 58,0  | 0,2 | 4     | Cylindrical | ■              |
| ST5541-040F2R020.0Z4 | SIRA  | 10302963    | 2            | F          | 4,0  | 6,0  | 10,0  | 58,0  | 0,2 | 4     | Cylindrical | ■              |
| ST5541-050F2R020.0Z4 | SIRA  | 10302964    | 2            | F          | 5,0  | 6,0  | 12,0  | 58,0  | 0,2 | 4     | Cylindrical | ■              |
| ST5541-060D2R050.0Z4 | SIRA  | 10302965    | 2            | D          | 6,0  | 6,0  | 14,0  | 58,0  | 0,5 | 4     | Cylindrical | ■              |
| ST5541-080D2R050.0Z4 | SIRA  | 10302966    | 2            | D          | 8,0  | 8,0  | 18,0  | 64,0  | 0,5 | 4     | Cylindrical | ■              |
| ST5541-100D2R050.0Z4 | SIRA  | 10302967    | 2            | D          | 10,0 | 10,0 | 22,0  | 73,0  | 0,5 | 4     | Cylindrical | ■              |
| ST5541-120D2R050.0Z4 | SIRA  | 10302968    | 2            | D          | 12,0 | 12,0 | 26,0  | 84,0  | 0,5 | 4     | Cylindrical | ■              |
| ST5541-120D2R100.0Z4 | SIRA  | 10302969    | 2            | D          | 12,0 | 12,0 | 26,0  | 84,0  | 1,0 | 4     | Cylindrical | ■              |
| ST5541-160D2R050.0Z4 | SIRA  | 10302970    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 0,5 | 4     | Cylindrical | ■              |
| ST5541-160D2R100.0Z4 | SIRA  | 10302972    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 1,0 | 4     | Cylindrical | ■              |
| ST5541-160D2R300.0Z4 | SIRA  | 10302971    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 3,0 | 4     | Cylindrical | ■              |
| ST5541-200D2R050.0Z4 | SIRA  | 10302973    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 0,5 | 4     | Cylindrical | ■              |
| ST5541-200D2R100.0Z4 | SIRA  | 10302975    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 1,0 | 4     | Cylindrical | ■              |
| ST5541-200D2R300.0Z4 | SIRA  | 10302974    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 3,0 | 4     | Cylindrical | ■              |
| ST5541-250D2R050.0Z4 | SIRA  | 10302976    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 0,5 | 4     | Cylindrical | ■              |
| ST5541-250D2R100.0Z4 | SIRA  | 10302978    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 1,0 | 4     | Cylindrical | ■              |
| ST5541-250D2R300.0Z4 | SIRA  | 10302977    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 3,0 | 4     | Cylindrical | ■              |
| ST5541-030F3R020.0Z4 | SIRA  | 10302979    | 3            | F          | 3,0  | 6,0  | 9,0   | 58,0  | 0,2 | 4     | Cylindrical | ■              |
| ST5541-040F3R020.0Z4 | SIRA  | 10302980    | 3            | F          | 4,0  | 6,0  | 12,0  | 58,0  | 0,2 | 4     | Cylindrical | ■              |
| ST5541-050F3R020.0Z4 | SIRA  | 10302981    | 3            | F          | 5,0  | 6,0  | 15,0  | 58,0  | 0,2 | 4     | Cylindrical | ■              |
| ST5541-060D3R050.0Z4 | SIRA  | 10302982    | 3            | D          | 6,0  | 6,0  | 18,0  | 64,0  | 0,5 | 4     | Cylindrical | ■              |
| ST5541-080D3R050.0Z4 | SIRA  | 10302983    | 3            | D          | 8,0  | 8,0  | 24,0  | 73,0  | 0,5 | 4     | Cylindrical | ■              |
| ST5541-100D3R050.0Z4 | SIRA  | 10302984    | 3            | D          | 10,0 | 10,0 | 30,0  | 85,0  | 0,5 | 4     | Cylindrical | ■              |
| ST5541-120D3R050.0Z4 | SIRA  | 10302985    | 3            | D          | 12,0 | 12,0 | 36,0  | 100,0 | 0,5 | 4     | Cylindrical | ■              |
| ST5541-120D3R100.0Z4 | SIRA  | 10302986    | 3            | D          | 12,0 | 12,0 | 36,0  | 100,0 | 1,0 | 4     | Cylindrical | ■              |
| ST5541-160D3R050.0Z4 | SIRA  | 10302987    | 3            | D          | 16,0 | 16,0 | 48,0  | 115,0 | 0,5 | 4     | Cylindrical | ■              |
| ST5541-160D3R100.0Z4 | SIRA  | 10302989    | 3            | D          | 16,0 | 16,0 | 48,0  | 115,0 | 1,0 | 4     | Cylindrical | ■              |
| ST5541-160D3R300.0Z4 | SIRA  | 10302988    | 3            | D          | 16,0 | 16,0 | 48,0  | 115,0 | 3,0 | 4     | Cylindrical | ■              |
| ST5541-200D3R050.0Z4 | SIRA  | 10302990    | 3            | D          | 20,0 | 20,0 | 60,0  | 125,0 | 0,5 | 4     | Cylindrical | ■              |
| ST5541-200D3R100.0Z4 | SIRA  | 10302992    | 3            | D          | 20,0 | 20,0 | 60,0  | 125,0 | 1,0 | 4     | Cylindrical | ■              |
| ST5541-200D3R300.0Z4 | SIRA  | 10302991    | 3            | D          | 20,0 | 20,0 | 60,0  | 125,0 | 3,0 | 4     | Cylindrical | ■              |
| ST5541-250D3R050.0Z4 | SIRA  | 10302993    | 3            | D          | 25,0 | 25,0 | 75,0  | 155,0 | 0,5 | 4     | Cylindrical | ■              |
| ST5541-250D3R100.0Z4 | SIRA  | 10302995    | 3            | D          | 25,0 | 25,0 | 75,0  | 155,0 | 1,0 | 4     | Cylindrical | ■              |
| ST5541-250D3R300.0Z4 | SIRA  | 10302994    | 3            | D          | 25,0 | 25,0 | 75,0  | 155,0 | 3,0 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

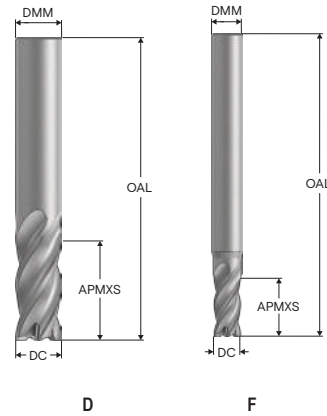
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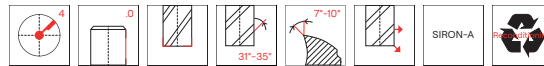
Minimaster

#### ST5541

High performance – Steel – Square – 4 Flutes – Cylindrical – Sharp – Inch



—Tolerances:  
—DMM= -.0001"/-.0004"  
—DC= +.000" / -.002"  
—Regrind possible if DC is  $\geq \varnothing .250$

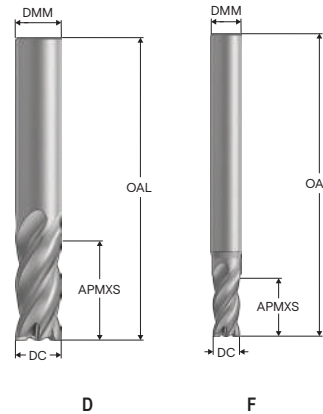


| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
|                    |       |             |              |            | inch  | inch  | inch  | inch  |       |             |                |
| ST5541-.125D1S.0Z4 | SIRA  | 10302742    | 1            | D          | 0.125 | 0.125 | 0.125 | 1.500 | 4     | Cylindrical | ■              |
| ST5541-.156F1S.0Z4 | SIRA  | 10302743    | 1            | F          | 0.156 | 0.188 | 0.156 | 2.000 | 4     | Cylindrical | ■              |
| ST5541-.188D1S.0Z4 | SIRA  | 10302744    | 1            | D          | 0.188 | 0.188 | 0.188 | 2.000 | 4     | Cylindrical | ■              |
| ST5541-.219F1S.0Z4 | SIRA  | 10302745    | 1            | F          | 0.219 | 0.250 | 0.219 | 2.000 | 4     | Cylindrical | ■              |
| ST5541-.250D1S.0Z4 | SIRA  | 10302746    | 1            | D          | 0.250 | 0.250 | 0.250 | 2.000 | 4     | Cylindrical | ■              |
| ST5541-.281F1S.0Z4 | SIRA  | 10302747    | 1            | F          | 0.281 | 0.313 | 0.281 | 2.000 | 4     | Cylindrical | ■              |
| ST5541-.313D1S.0Z4 | SIRA  | 10302748    | 1            | D          | 0.313 | 0.313 | 0.313 | 2.000 | 4     | Cylindrical | ■              |
| ST5541-.375D1S.0Z4 | SIRA  | 10302749    | 1            | D          | 0.375 | 0.375 | 0.375 | 2.000 | 4     | Cylindrical | ■              |
| ST5541-.438D1S.0Z4 | SIRA  | 10302750    | 1            | D          | 0.438 | 0.438 | 0.438 | 2.750 | 4     | Cylindrical | ■              |
| ST5541-.500D1S.0Z4 | SIRA  | 10302751    | 1            | D          | 0.500 | 0.500 | 0.500 | 2.500 | 4     | Cylindrical | ■              |
| ST5541-.625D1S.0Z4 | SIRA  | 10302752    | 1            | D          | 0.625 | 0.625 | 0.625 | 3.000 | 4     | Cylindrical | ■              |
| ST5541-.750D1S.0Z4 | SIRA  | 10302753    | 1            | D          | 0.750 | 0.750 | 0.750 | 3.000 | 4     | Cylindrical | ■              |
| ST5541-.875D1S.0Z4 | SIRA  | 10302754    | 1            | D          | 0.875 | 0.875 | 0.875 | 4.000 | 4     | Cylindrical | ■              |
| ST5541-1.00D1S.0Z4 | SIRA  | 10302755    | 1            | D          | 1.000 | 1.000 | 1.000 | 4.000 | 4     | Cylindrical | ■              |
| ST5541-.125D2S.0Z4 | SIRA  | 10302756    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 4     | Cylindrical | ■              |
| ST5541-.156F2S.0Z4 | SIRA  | 10302757    | 2            | F          | 0.156 | 0.188 | 0.313 | 2.000 | 4     | Cylindrical | ■              |
| ST5541-.188D2S.0Z4 | SIRA  | 10302758    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 4     | Cylindrical | ■              |
| ST5541-.219F2S.0Z4 | SIRA  | 10302759    | 2            | F          | 0.219 | 0.250 | 0.438 | 2.500 | 4     | Cylindrical | ■              |
| ST5541-.250D2S.0Z4 | SIRA  | 10302760    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.500 | 4     | Cylindrical | ■              |
| ST5541-.281F2S.0Z4 | SIRA  | 10302761    | 2            | F          | 0.281 | 0.313 | 0.563 | 2.500 | 4     | Cylindrical | ■              |
| ST5541-.313D2S.0Z4 | SIRA  | 10302762    | 2            | D          | 0.313 | 0.313 | 0.625 | 2.500 | 4     | Cylindrical | ■              |
| ST5541-.375D2S.0Z4 | SIRA  | 10302763    | 2            | D          | 0.375 | 0.375 | 0.750 | 2.500 | 4     | Cylindrical | ■              |
| ST5541-.438D2S.0Z4 | SIRA  | 10302764    | 2            | D          | 0.438 | 0.438 | 0.875 | 2.750 | 4     | Cylindrical | ■              |
| ST5541-.500D2S.0Z4 | SIRA  | 10302765    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 4     | Cylindrical | ■              |
| ST5541-.625D2S.0Z4 | SIRA  | 10302766    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 4     | Cylindrical | ■              |
| ST5541-.750D2S.0Z4 | SIRA  | 10302767    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 4     | Cylindrical | ■              |
| ST5541-.875D2S.0Z4 | SIRA  | 10302768    | 2            | D          | 0.875 | 0.875 | 1.750 | 4.000 | 4     | Cylindrical | ■              |
| ST5541-1.00D2S.0Z4 | SIRA  | 10302769    | 2            | D          | 1.000 | 1.000 | 2.000 | 5.000 | 4     | Cylindrical | ■              |

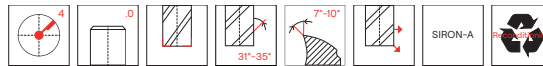
■ Stocked standard.

## ST5541

High performance – Steel – Square – 4 Flutes – Cylindrical – Sharp – Inch



- Tolerances:
- DMM=  $\pm 0.001'' / \pm 0.004''$
- DC=  $\pm 0.002'' / \pm 0.002''$
- Regrind possible if DC is  $\geq \varnothing 0.250$



| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------------|----------------|
| ST5541-125D3S.0Z4  | SIRA  | 10302770    | 3            | D          | inch  | inch  | inch  | inch  | 4     | Cylindrical | ■              |
| ST5541-156F3S.0Z4  | SIRA  | 10302771    | 3            | F          | 0.125 | 0.125 | 0.375 | 1.500 | 4     | Cylindrical | ■              |
| ST5541-188D3S.0Z4  | SIRA  | 10302772    | 3            | D          | 0.156 | 0.188 | 0.469 | 2.000 | 4     | Cylindrical | ■              |
| ST5541-219F3S.0Z4  | SIRA  | 10302773    | 3            | F          | 0.188 | 0.188 | 0.563 | 2.000 | 4     | Cylindrical | ■              |
| ST5541-250D3S.0Z4  | SIRA  | 10302774    | 3            | D          | 0.219 | 0.250 | 0.656 | 2.500 | 4     | Cylindrical | ■              |
| ST5541-281F3S.0Z4  | SIRA  | 10302775    | 3            | F          | 0.250 | 0.250 | 0.750 | 2.500 | 4     | Cylindrical | ■              |
| ST5541-313D3S.0Z4  | SIRA  | 10302776    | 3            | D          | 0.281 | 0.313 | 0.844 | 2.500 | 4     | Cylindrical | ■              |
| ST5541-375D3S.0Z4  | SIRA  | 10302777    | 3            | D          | 0.313 | 0.313 | 0.938 | 3.000 | 4     | Cylindrical | ■              |
| ST5541-438D3S.0Z4  | SIRA  | 10302778    | 3            | D          | 0.375 | 0.375 | 1.125 | 3.000 | 4     | Cylindrical | ■              |
| ST5541-500D3S.0Z4  | SIRA  | 10302779    | 3            | D          | 0.438 | 0.438 | 1.313 | 4.000 | 4     | Cylindrical | ■              |
| ST5541-625D3S.0Z4  | SIRA  | 10302780    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 4     | Cylindrical | ■              |
| ST5541-750D3S.0Z4  | SIRA  | 10302781    | 3            | D          | 0.625 | 0.625 | 1.875 | 4.000 | 4     | Cylindrical | ■              |
| ST5541-875D3S.0Z4  | SIRA  | 10302782    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 4     | Cylindrical | ■              |
| ST5541-1.00D3S.0Z4 | SIRA  | 10302783    | 3            | D          | 0.875 | 0.875 | 2.625 | 5.000 | 4     | Cylindrical | ■              |
| ST5541-500D4S.0Z4  | SIRA  | 10302784    | 4            | D          | 1.000 | 1.000 | 3.000 | 6.000 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and CFRP

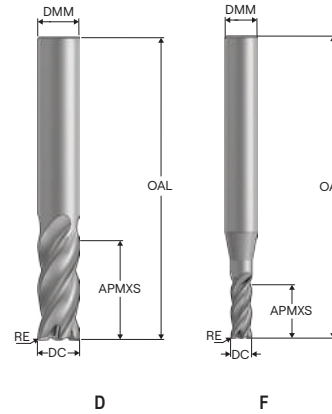
Graphite

X-Heads

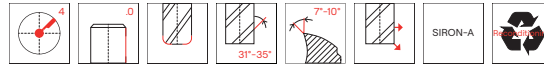
Minimaster

## ST5541

High performance – Steel – Square – 4 Flutes – Cylindrical – Corner radius – Inch



—Tolerances:  
—DMM=  $\pm 0.001$ " /  $\pm 0.004$ "  
—DC=  $\pm 0.000$ " /  $\pm 0.002$ "  
—RE=  $\pm 0.0008$ "  
—Regrind possible if DC is  $\geq \varnothing 0.250$

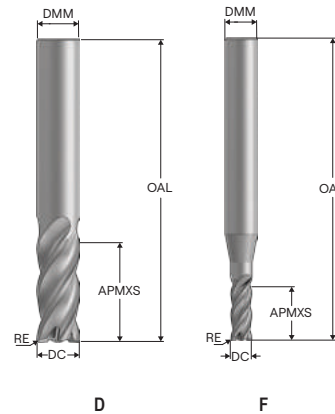


| Designation           | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|-----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| ST5541-.125D1R010.0Z4 | SIRA  | 10302785    | 1            | D          | inch  | inch  | inch  | inch  | inch  | 4     | Cylindrical | ■              |
| ST5541-.156F1R010.0Z4 | SIRA  | 10302786    | 1            | F          | 0.156 | 0.188 | 0.156 | 2.000 | 0.010 | 4     | Cylindrical | ■              |
| ST5541-.188D1R010.0Z4 | SIRA  | 10302787    | 1            | D          | 0.188 | 0.188 | 0.188 | 2.000 | 0.010 | 4     | Cylindrical | ■              |
| ST5541-.219F1R020.0Z4 | SIRA  | 10302788    | 1            | F          | 0.219 | 0.250 | 0.219 | 2.000 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.250D1R020.0Z4 | SIRA  | 10302789    | 1            | D          | 0.250 | 0.250 | 0.250 | 2.000 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.281F1R020.0Z4 | SIRA  | 10302790    | 1            | F          | 0.281 | 0.313 | 0.281 | 2.000 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.313D1R020.0Z4 | SIRA  | 10302791    | 1            | D          | 0.313 | 0.313 | 0.313 | 2.000 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.375D1R020.0Z4 | SIRA  | 10302792    | 1            | D          | 0.375 | 0.375 | 0.375 | 2.000 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.438D1R020.0Z4 | SIRA  | 10302793    | 1            | D          | 0.438 | 0.438 | 0.438 | 2.750 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.500D1R030.0Z4 | SIRA  | 10302794    | 1            | D          | 0.500 | 0.500 | 0.500 | 2.500 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-.625D1R030.0Z4 | SIRA  | 10302795    | 1            | D          | 0.625 | 0.625 | 0.625 | 3.000 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-.750D1R030.0Z4 | SIRA  | 10302796    | 1            | D          | 0.750 | 0.750 | 0.750 | 3.000 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-.875D1R030.0Z4 | SIRA  | 10302797    | 1            | D          | 0.875 | 0.875 | 0.875 | 4.000 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-1.00D1R030.0Z4 | SIRA  | 10302798    | 1            | D          | 1.000 | 1.000 | 1.000 | 4.000 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-.125D2R010.0Z4 | SIRA  | 10302799    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | 0.010 | 4     | Cylindrical | ■              |
| ST5541-.156F2R010.0Z4 | SIRA  | 10302800    | 2            | F          | 0.156 | 0.188 | 0.313 | 2.000 | 0.010 | 4     | Cylindrical | ■              |
| ST5541-.188D2R010.0Z4 | SIRA  | 10302801    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | 0.010 | 4     | Cylindrical | ■              |
| ST5541-.219F2R020.0Z4 | SIRA  | 10302802    | 2            | F          | 0.219 | 0.250 | 0.438 | 2.500 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.250D2R020.0Z4 | SIRA  | 10302803    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.500 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.281F2R020.0Z4 | SIRA  | 10302805    | 2            | F          | 0.281 | 0.313 | 0.563 | 2.500 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.313D2R020.0Z4 | SIRA  | 10302806    | 2            | D          | 0.313 | 0.313 | 0.625 | 2.500 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.375D2R020.0Z4 | SIRA  | 10302808    | 2            | D          | 0.375 | 0.375 | 0.750 | 2.500 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.438D2R020.0Z4 | SIRA  | 10302810    | 2            | D          | 0.438 | 0.438 | 0.875 | 2.750 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.500D2R030.0Z4 | SIRA  | 10302812    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-.500D2R060.0Z4 | SIRA  | 10302813    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.060 | 4     | Cylindrical | ■              |
| ST5541-.500D2R120.0Z4 | SIRA  | 10302814    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.120 | 4     | Cylindrical | ■              |
| ST5541-.625D2R030.0Z4 | SIRA  | 10302816    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-.625D2R060.0Z4 | SIRA  | 10302817    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.060 | 4     | Cylindrical | ■              |
| ST5541-.625D2R090.0Z4 | SIRA  | 10302818    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.090 | 4     | Cylindrical | ■              |
| ST5541-.625D2R120.0Z4 | SIRA  | 10302819    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.120 | 4     | Cylindrical | ■              |
| ST5541-.750D2R030.0Z4 | SIRA  | 10302821    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-.750D2R060.0Z4 | SIRA  | 10302822    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.060 | 4     | Cylindrical | ■              |
| ST5541-.750D2R090.0Z4 | SIRA  | 10302823    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.090 | 4     | Cylindrical | ■              |
| ST5541-.750D2R120.0Z4 | SIRA  | 10302824    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.120 | 4     | Cylindrical | ■              |
| ST5541-.750D2R250.0Z4 | SIRA  | 10302825    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.250 | 4     | Cylindrical | ■              |
| ST5541-.875D2R030.0Z4 | SIRA  | 10302827    | 2            | D          | 0.875 | 0.875 | 1.750 | 4.000 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-1.00D2R030.0Z4 | SIRA  | 10302828    | 2            | D          | 1.000 | 1.000 | 2.000 | 5.000 | 0.030 | 4     | Cylindrical | ■              |

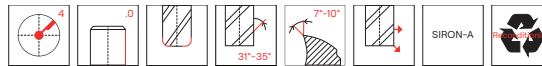
■ Stocked standard.

## ST5541

High performance – Steel – Square – 4 Flutes – Cylindrical – Corner radius – Inch



- Tolerances:
- DMM=  $\pm 0.001$ " /  $\pm 0.004$ "
- DC=  $\pm 0.000$ " /  $\pm 0.002$ "
- RE=  $\pm 0.008$ "
- Regrind possible if DC is  $\geq \varnothing 0.250$



| Designation           | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank       | Stock standard |
|-----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| ST5541-.125D3R010.0Z4 | SIRA  | 10302830    | 3            | D          | 0.125 | 0.125 | 0.375 | 1.500 | 0.010 | 4     | Cylindrical | ■              |
| ST5541-.156F3R010.0Z4 | SIRA  | 10302831    | 3            | F          | 0.156 | 0.188 | 0.469 | 2.000 | 0.010 | 4     | Cylindrical | ■              |
| ST5541-.188D3R010.0Z4 | SIRA  | 10302832    | 3            | D          | 0.188 | 0.188 | 0.563 | 2.000 | 0.010 | 4     | Cylindrical | ■              |
| ST5541-.219F3R020.0Z4 | SIRA  | 10302833    | 3            | F          | 0.219 | 0.250 | 0.656 | 2.500 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.250D3R020.0Z4 | SIRA  | 10302834    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.281F3R020.0Z4 | SIRA  | 10302835    | 3            | F          | 0.281 | 0.313 | 0.844 | 2.500 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.313D3R020.0Z4 | SIRA  | 10302836    | 3            | D          | 0.313 | 0.313 | 0.938 | 2.500 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.375D3R020.0Z4 | SIRA  | 10302837    | 3            | D          | 0.375 | 0.375 | 1.125 | 3.000 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.438D3R020.0Z4 | SIRA  | 10302838    | 3            | D          | 0.438 | 0.438 | 1.313 | 4.000 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-.500D3R030.0Z4 | SIRA  | 10302839    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-.500D3R060.0Z4 | SIRA  | 10302840    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.060 | 4     | Cylindrical | ■              |
| ST5541-.500D3R120.0Z4 | SIRA  | 10302841    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.120 | 4     | Cylindrical | ■              |
| ST5541-.625D3R030.0Z4 | SIRA  | 10302842    | 3            | D          | 0.625 | 0.625 | 1.875 | 4.000 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-.625D3R060.0Z4 | SIRA  | 10302843    | 3            | D          | 0.625 | 0.625 | 1.875 | 4.000 | 0.060 | 4     | Cylindrical | ■              |
| ST5541-.625D3R090.0Z4 | SIRA  | 10302844    | 3            | D          | 0.625 | 0.625 | 1.875 | 4.000 | 0.090 | 4     | Cylindrical | ■              |
| ST5541-.625D3R120.0Z4 | SIRA  | 10302845    | 3            | D          | 0.625 | 0.625 | 1.875 | 4.000 | 0.120 | 4     | Cylindrical | ■              |
| ST5541-.750D3R030.0Z4 | SIRA  | 10302846    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-.750D3R060.0Z4 | SIRA  | 10302847    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 0.060 | 4     | Cylindrical | ■              |
| ST5541-.750D3R090.0Z4 | SIRA  | 10302848    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 0.090 | 4     | Cylindrical | ■              |
| ST5541-.750D3R120.0Z4 | SIRA  | 10302849    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 0.120 | 4     | Cylindrical | ■              |
| ST5541-.750D3R250.0Z4 | SIRA  | 10302850    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 0.250 | 4     | Cylindrical | ■              |
| ST5541-.875D3R030.0Z4 | SIRA  | 10302851    | 3            | D          | 0.875 | 0.875 | 2.625 | 5.000 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-1.00D3R030.0Z4 | SIRA  | 10302852    | 3            | D          | 1.000 | 1.000 | 3.000 | 6.000 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-.500D4R030.0Z4 | SIRA  | 10302853    | 4            | D          | 0.500 | 0.500 | 1.500 | 4.000 | 0.030 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

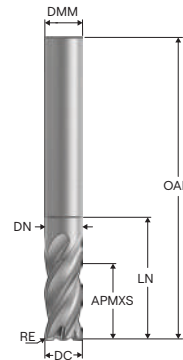
Graphite

X-Heads

Minimaster

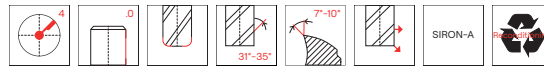
#### ST5541

High performance – Steel – Square – 4 Flutes – Cylindrical – Corner radius – Inch



E

—Tolerances:  
—DMM=  $\pm 0.001'' / -0.0004''$   
—DC=  $+0.000'' / -0.002''$   
—RE=  $\pm 0.0008''$   
—Reground possible



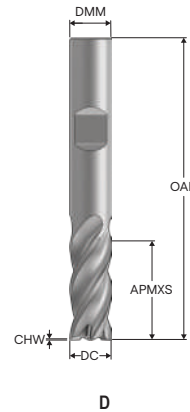
| Designation           | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | LN    | DN    | RE    | PCEDC | Shank       | Stock standard |
|-----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| ST5541-250E2R020.0Z4  | SIRA  | 10302804    | 2            | E          | inch  | inch  | inch  | inch  | inch  | inch  | inch  |       | Cylindrical | ■              |
| ST5541-313E2R020.0Z4  | SIRA  | 10302807    | 2            | E          | 0.313 | 0.313 | 0.625 | 3.000 | 0.938 | 0.300 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-375E2R020.0Z4  | SIRA  | 10302809    | 2            | E          | 0.375 | 0.375 | 0.750 | 3.000 | 1.125 | 0.360 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-438E2R020.0Z4  | SIRA  | 10302811    | 2            | E          | 0.438 | 0.438 | 0.875 | 4.000 | 1.313 | 0.420 | 0.020 | 4     | Cylindrical | ■              |
| ST5541-500E2R030.0Z4  | SIRA  | 10302815    | 2            | E          | 0.500 | 0.500 | 1.000 | 3.000 | 1.500 | 0.480 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-625E2R030.0Z4  | SIRA  | 10302820    | 2            | E          | 0.625 | 0.625 | 1.250 | 3.500 | 1.875 | 0.600 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-750E2R030.0Z4  | SIRA  | 10302826    | 2            | E          | 0.750 | 0.750 | 1.500 | 4.000 | 2.250 | 0.720 | 0.030 | 4     | Cylindrical | ■              |
| ST5541-1.00E2R030.0Z4 | SIRA  | 10302829    | 2            | E          | 1.000 | 1.000 | 2.000 | 5.000 | 3.000 | 0.960 | 0.030 | 4     | Cylindrical | ■              |

■ Stocked standard.

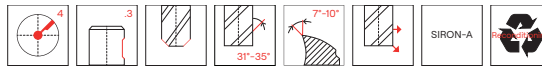


## ST5541

High performance – Steel – Square – 4 Flutes – Weldon – Chamfer



- Tolerances:
- DMM=h5
- DC=e7
- Regrind possible



| Designation       | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank  | Stock standard           |
|-------------------|-------|-------------|--------------|------------|------|------|-------|-------|-------|-------|--------|--------------------------|
| ST5541-060D2C.3Z4 | SIRA  | 10302996    | 2            | D          | mm   | mm   | mm    | mm    | mm    |       |        |                          |
| ST5541-080D2C.3Z4 | SIRA  | 10302997    | 2            | D          | 6,0  | 6,0  | 14,0  | 58,0  | 0,075 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-100D2C.3Z4 | SIRA  | 10302998    | 2            | D          | 8,0  | 8,0  | 18,0  | 64,0  | 0,1   | 4     | Weldon | <input type="checkbox"/> |
| ST5541-120D2C.3Z4 | SIRA  | 10302999    | 2            | D          | 10,0 | 10,0 | 22,0  | 73,0  | 0,125 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-160D2C.3Z4 | SIRA  | 10303000    | 2            | D          | 12,0 | 12,0 | 26,0  | 84,0  | 0,15  | 4     | Weldon | <input type="checkbox"/> |
| ST5541-200D2C.3Z4 | SIRA  | 10303001    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 0,2   | 4     | Weldon | <input type="checkbox"/> |
| ST5541-250D2C.3Z4 | SIRA  | 10303002    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 0,25  | 4     | Weldon | <input type="checkbox"/> |
| ST5541-060D3C.3Z4 | SIRA  | 10303003    | 3            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 0,3   | 4     | Weldon | <input type="checkbox"/> |
| ST5541-080D3C.3Z4 | SIRA  | 10303004    | 3            | D          | 6,0  | 6,0  | 18,0  | 64,0  | 0,075 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-100D3C.3Z4 | SIRA  | 10303005    | 3            | D          | 8,0  | 8,0  | 24,0  | 73,0  | 0,1   | 4     | Weldon | <input type="checkbox"/> |
| ST5541-120D3C.3Z4 | SIRA  | 10303006    | 3            | D          | 10,0 | 10,0 | 30,0  | 85,0  | 0,125 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-160D3C.3Z4 | SIRA  | 10303007    | 3            | D          | 12,0 | 12,0 | 36,0  | 100,0 | 0,15  | 4     | Weldon | <input type="checkbox"/> |
| ST5541-200D3C.3Z4 | SIRA  | 10303008    | 3            | D          | 16,0 | 16,0 | 48,0  | 115,0 | 0,2   | 4     | Weldon | <input type="checkbox"/> |
| ST5541-250D3C.3Z4 | SIRA  | 10303009    | 3            | D          | 20,0 | 20,0 | 60,0  | 125,0 | 0,25  | 4     | Weldon | <input type="checkbox"/> |
| ST5541-250D3C.3Z4 | SIRA  | 10303009    | 3            | D          | 25,0 | 25,0 | 75,0  | 155,0 | 0,3   | 4     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

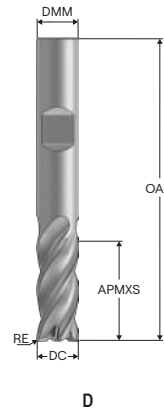
Graphite

X-Heads

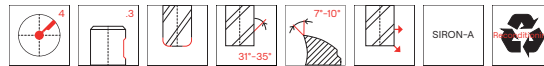
Minimaster

### ST5541

High performance – Steel – Square – 4 Flutes – Weldon – Corner radius



—Tolerances:  
—DMM=h5  
—DC=e7  
—RE= ±0,02 mm  
—Regrind possible

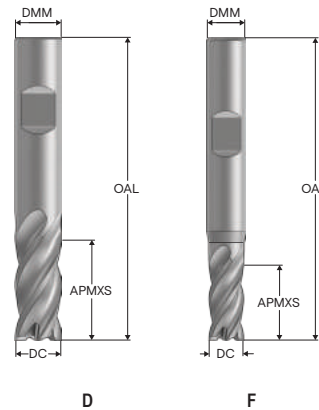


| Designation          | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank  | Stock standard           |
|----------------------|-------|-------------|--------------|------------|------|------|-------|-------|-----|-------|--------|--------------------------|
| ST5541-060D2R050.3Z4 | SIRA  | 10303010    | 2            | D          | 6,0  | 6,0  | 14,0  | 58,0  | 0,5 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-080D2R050.3Z4 | SIRA  | 10303011    | 2            | D          | 8,0  | 8,0  | 18,0  | 64,0  | 0,5 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-100D2R050.3Z4 | SIRA  | 10303012    | 2            | D          | 10,0 | 10,0 | 22,0  | 73,0  | 0,5 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-120D2R050.3Z4 | SIRA  | 10303013    | 2            | D          | 12,0 | 12,0 | 26,0  | 84,0  | 0,5 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-120D2R100.3Z4 | SIRA  | 10303014    | 2            | D          | 12,0 | 12,0 | 26,0  | 84,0  | 1,0 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-160D2R050.3Z4 | SIRA  | 10303015    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 0,5 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-160D2R100.3Z4 | SIRA  | 10303017    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 1,0 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-160D2R300.3Z4 | SIRA  | 10303016    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 3,0 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-200D2R050.3Z4 | SIRA  | 10303018    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 0,5 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-200D2R100.3Z4 | SIRA  | 10303020    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 1,0 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-200D2R300.3Z4 | SIRA  | 10303019    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 3,0 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-250D2R050.3Z4 | SIRA  | 10303021    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 0,5 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-250D2R100.3Z4 | SIRA  | 10303023    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 1,0 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-250D2R300.3Z4 | SIRA  | 10303022    | 2            | D          | 25,0 | 25,0 | 52,0  | 125,0 | 3,0 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-060D3R050.3Z4 | SIRA  | 10303024    | 3            | D          | 6,0  | 6,0  | 18,0  | 64,0  | 0,5 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-080D3R050.3Z4 | SIRA  | 10303025    | 3            | D          | 8,0  | 8,0  | 24,0  | 73,0  | 0,5 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-100D3R050.3Z4 | SIRA  | 10303026    | 3            | D          | 10,0 | 10,0 | 30,0  | 85,0  | 0,5 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-120D3R050.3Z4 | SIRA  | 10303027    | 3            | D          | 12,0 | 12,0 | 36,0  | 100,0 | 0,5 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-120D3R100.3Z4 | SIRA  | 10303028    | 3            | D          | 12,0 | 12,0 | 36,0  | 100,0 | 1,0 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-160D3R050.3Z4 | SIRA  | 10303029    | 3            | D          | 16,0 | 16,0 | 48,0  | 115,0 | 0,5 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-160D3R100.3Z4 | SIRA  | 10303031    | 3            | D          | 16,0 | 16,0 | 48,0  | 115,0 | 1,0 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-160D3R300.3Z4 | SIRA  | 10303030    | 3            | D          | 16,0 | 16,0 | 48,0  | 115,0 | 3,0 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-200D3R050.3Z4 | SIRA  | 10303032    | 3            | D          | 20,0 | 20,0 | 60,0  | 125,0 | 0,5 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-200D3R100.3Z4 | SIRA  | 10303034    | 3            | D          | 20,0 | 20,0 | 60,0  | 125,0 | 1,0 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-200D3R300.3Z4 | SIRA  | 10303033    | 3            | D          | 20,0 | 20,0 | 60,0  | 125,0 | 3,0 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-250D3R050.3Z4 | SIRA  | 10303035    | 3            | D          | 25,0 | 25,0 | 75,0  | 155,0 | 0,5 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-250D3R100.3Z4 | SIRA  | 10303037    | 3            | D          | 25,0 | 25,0 | 75,0  | 155,0 | 1,0 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-250D3R300.3Z4 | SIRA  | 10303036    | 3            | D          | 25,0 | 25,0 | 75,0  | 155,0 | 3,0 | 4     | Weldon | <input type="checkbox"/> |

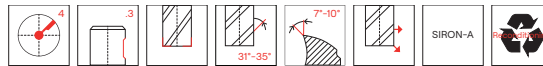
☐ Weldon available. Delivery time is 3 days.

## ST5541

High performance – Steel – Square – 4 Flutes – Weldon – Sharp – Inch



— Tolerances:  
— DMM=  $\pm 0.001$ " /  $\pm 0.004$ "  
— DC=  $\pm 0.000$ " /  $\pm 0.002$ "  
— Regrind possible



| Designation        | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | PCEDC | Shank  | Stock standard |
|--------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|--------|----------------|
| ST5541-.250D1S.3Z4 | SIRA  | 10302854    | 1            | D          | inch  | inch  | inch  | inch  |       |        |                |
| ST5541-.281F1S.3Z4 | SIRA  | 10302855    | 1            | F          | 0.250 | 0.250 | 0.250 | 2.000 | 4     | Weldon | □              |
| ST5541-.313D1S.3Z4 | SIRA  | 10302856    | 1            | D          | 0.281 | 0.313 | 0.281 | 2.000 | 4     | Weldon | □              |
| ST5541-.375D1S.3Z4 | SIRA  | 10302857    | 1            | D          | 0.313 | 0.313 | 0.313 | 2.000 | 4     | Weldon | □              |
| ST5541-.438D1S.3Z4 | SIRA  | 10302858    | 1            | D          | 0.375 | 0.375 | 0.375 | 2.000 | 4     | Weldon | ■              |
| ST5541-.500D1S.3Z4 | SIRA  | 10302859    | 1            | D          | 0.438 | 0.438 | 0.438 | 2.750 | 4     | Weldon | ■              |
| ST5541-.625D1S.3Z4 | SIRA  | 10302860    | 1            | D          | 0.500 | 0.500 | 0.500 | 2.500 | 4     | Weldon | ■              |
| ST5541-.750D1S.3Z4 | SIRA  | 10302861    | 1            | D          | 0.625 | 0.625 | 0.625 | 3.000 | 4     | Weldon | ■              |
| ST5541-.875D1S.3Z4 | SIRA  | 10302862    | 1            | D          | 0.750 | 0.750 | 0.750 | 3.000 | 4     | Weldon | ■              |
| ST5541-1.00D1S.3Z4 | SIRA  | 10302863    | 1            | D          | 0.875 | 0.875 | 0.875 | 4.000 | 4     | Weldon | □              |
| ST5541-.250D2S.3Z4 | SIRA  | 10302864    | 2            | D          | 1.000 | 1.000 | 1.000 | 4.000 | 4     | Weldon | ■              |
| ST5541-.281F2S.3Z4 | SIRA  | 10302865    | 2            | F          | 0.250 | 0.250 | 0.500 | 2.500 | 4     | Weldon | □              |
| ST5541-.313D2S.3Z4 | SIRA  | 10302866    | 2            | D          | 0.281 | 0.313 | 0.563 | 2.500 | 4     | Weldon | □              |
| ST5541-.375D2S.3Z4 | SIRA  | 10302867    | 2            | D          | 0.313 | 0.313 | 0.625 | 2.500 | 4     | Weldon | □              |
| ST5541-.438D2S.3Z4 | SIRA  | 10302868    | 2            | D          | 0.375 | 0.375 | 0.750 | 2.500 | 4     | Weldon | ■              |
| ST5541-.500D2S.3Z4 | SIRA  | 10302869    | 2            | D          | 0.438 | 0.438 | 0.875 | 2.750 | 4     | Weldon | ■              |
| ST5541-.625D2S.3Z4 | SIRA  | 10302870    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 4     | Weldon | ■              |
| ST5541-.750D2S.3Z4 | SIRA  | 10302871    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 4     | Weldon | ■              |
| ST5541-.875D2S.3Z4 | SIRA  | 10302872    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 4     | Weldon | ■              |
| ST5541-1.00D2S.3Z4 | SIRA  | 10302873    | 2            | D          | 0.875 | 0.875 | 1.750 | 4.000 | 4     | Weldon | □              |
| ST5541-.250D3S.3Z4 | SIRA  | 10302874    | 3            | D          | 1.000 | 1.000 | 2.000 | 5.000 | 4     | Weldon | ■              |
| ST5541-.281F3S.3Z4 | SIRA  | 10302875    | 3            | F          | 0.250 | 0.250 | 0.750 | 2.500 | 4     | Weldon | □              |
| ST5541-.313D3S.3Z4 | SIRA  | 10302876    | 3            | D          | 0.281 | 0.313 | 0.844 | 2.500 | 4     | Weldon | □              |
| ST5541-.375D3S.3Z4 | SIRA  | 10302877    | 3            | D          | 0.313 | 0.313 | 0.938 | 2.500 | 4     | Weldon | □              |
| ST5541-.438D3S.3Z4 | SIRA  | 10302878    | 3            | D          | 0.375 | 0.375 | 1.125 | 3.000 | 4     | Weldon | ■              |
| ST5541-.500D3S.3Z4 | SIRA  | 10302879    | 3            | D          | 0.438 | 0.438 | 1.313 | 4.000 | 4     | Weldon | ■              |
| ST5541-.625D3S.3Z4 | SIRA  | 10302880    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 4     | Weldon | ■              |
| ST5541-.750D3S.3Z4 | SIRA  | 10302881    | 3            | D          | 0.625 | 0.625 | 1.875 | 4.000 | 4     | Weldon | ■              |
| ST5541-.875D3S.3Z4 | SIRA  | 10302882    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 4     | Weldon | ■              |
| ST5541-1.00D3S.3Z4 | SIRA  | 10302883    | 3            | D          | 0.875 | 0.875 | 2.625 | 5.000 | 4     | Weldon | □              |
| ST5541-.500D4S.3Z4 | SIRA  | 10302884    | 4            | D          | 1.000 | 1.000 | 3.000 | 6.000 | 4     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfpr

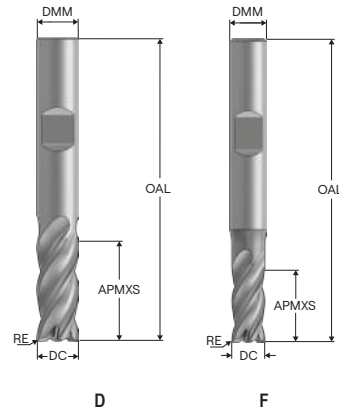
Graphite

X-Heads

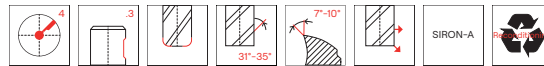
Minimaster

### ST5541

High performance – Steel – Square – 4 Flutes – Weldon – Corner radius – Inch



—Tolerances:  
—DMM =  $\pm 0.001$ " /  $\pm 0.004$ "  
—DC =  $\pm 0.000$ " /  $\pm 0.002$ "  
—RE =  $\pm 0.0008$ "  
—Reground possible

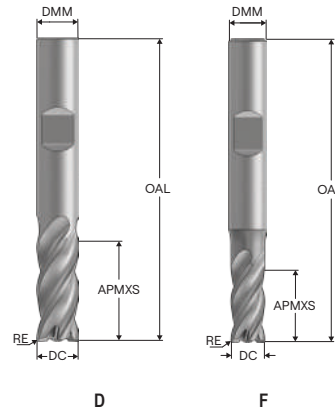


| Designation           | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank  | Stock standard                      |
|-----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|--------|-------------------------------------|
| ST5541-250D1R020.3Z4  | SIRA  | 10302885    | 1            | D          | inch  | inch  | inch  | inch  | inch  | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-281F1R020.3Z4  | SIRA  | 10302886    | 1            | F          | 0.281 | 0.313 | 0.281 | 2.000 | 0.020 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-313D1R020.3Z4  | SIRA  | 10302887    | 1            | D          | 0.313 | 0.313 | 0.313 | 2.000 | 0.020 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-375D1R020.3Z4  | SIRA  | 10302888    | 1            | D          | 0.375 | 0.375 | 0.375 | 2.000 | 0.020 | 4     | Weldon | <input checked="" type="checkbox"/> |
| ST5541-438D1R020.3Z4  | SIRA  | 10302889    | 1            | D          | 0.438 | 0.438 | 0.438 | 2.750 | 0.020 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-500D1R030.3Z4  | SIRA  | 10302890    | 1            | D          | 0.500 | 0.500 | 0.500 | 2.500 | 0.030 | 4     | Weldon | <input checked="" type="checkbox"/> |
| ST5541-625D1R030.3Z4  | SIRA  | 10302891    | 1            | D          | 0.625 | 0.625 | 0.625 | 3.000 | 0.030 | 4     | Weldon | <input checked="" type="checkbox"/> |
| ST5541-750D1R030.3Z4  | SIRA  | 10302892    | 1            | D          | 0.750 | 0.750 | 0.750 | 3.000 | 0.030 | 4     | Weldon | <input checked="" type="checkbox"/> |
| ST5541-875D1R030.3Z4  | SIRA  | 10302893    | 1            | D          | 0.875 | 0.875 | 0.875 | 4.000 | 0.030 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-1.00D1R030.3Z4 | SIRA  | 10302894    | 1            | D          | 1.000 | 1.000 | 1.000 | 4.000 | 0.030 | 4     | Weldon | <input checked="" type="checkbox"/> |
| ST5541-250D2R020.3Z4  | SIRA  | 10302895    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.500 | 0.020 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-281F2R020.3Z4  | SIRA  | 10302897    | 2            | F          | 0.281 | 0.313 | 0.563 | 2.500 | 0.020 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-313D2R020.3Z4  | SIRA  | 10302898    | 2            | D          | 0.313 | 0.313 | 0.625 | 2.500 | 0.020 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-375D2R020.3Z4  | SIRA  | 10302900    | 2            | D          | 0.375 | 0.375 | 0.750 | 2.500 | 0.020 | 4     | Weldon | <input checked="" type="checkbox"/> |
| ST5541-438D2R020.3Z4  | SIRA  | 10302902    | 2            | D          | 0.438 | 0.438 | 0.875 | 2.750 | 0.020 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-500D2R030.3Z4  | SIRA  | 10302904    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.030 | 4     | Weldon | <input checked="" type="checkbox"/> |
| ST5541-500D2R060.3Z4  | SIRA  | 10302905    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.060 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-500D2R120.3Z4  | SIRA  | 10302907    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | 0.120 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-625D2R030.3Z4  | SIRA  | 10302908    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.030 | 4     | Weldon | <input checked="" type="checkbox"/> |
| ST5541-625D2R060.3Z4  | SIRA  | 10302909    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.060 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-625D2R090.3Z4  | SIRA  | 10302910    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.090 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-625D2R120.3Z4  | SIRA  | 10302911    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | 0.120 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-750D2R030.3Z4  | SIRA  | 10302913    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.030 | 4     | Weldon | <input checked="" type="checkbox"/> |
| ST5541-750D2R060.3Z4  | SIRA  | 10302914    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.060 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-750D2R090.3Z4  | SIRA  | 10302915    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.090 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-750D2R120.3Z4  | SIRA  | 10302916    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.120 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-750D2R250.3Z4  | SIRA  | 10302917    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | 0.250 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-875D2R030.3Z4  | SIRA  | 10302919    | 2            | D          | 0.875 | 0.875 | 1.750 | 4.000 | 0.030 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-1.00D2R030.3Z4 | SIRA  | 10302920    | 2            | D          | 1.000 | 1.000 | 2.000 | 5.000 | 0.030 | 4     | Weldon | <input checked="" type="checkbox"/> |

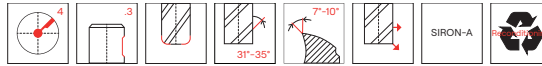
■ Stocked standard. □ Weldon available. Delivery time is 3 days.

## ST5541

High performance – Steel – Square – 4 Flutes – Weldon – Corner radius – Inch



- Tolerances:
- DMM=  $\pm 0.001$ " /  $\pm 0.004$ "
- DC=  $\pm 0.000$ " /  $\pm 0.002$ "
- RE=  $\pm 0.008$ "
- Regrind possible



| Designation           | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | RE    | PCEDC | Shank  | Stock standard                      |
|-----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|--------|-------------------------------------|
| ST5541-.250D3R020.3Z4 | SIRA  | 10302922    | 3            | D          | 0.250 | 0.250 | 0.750 | 2.500 | 0.020 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-.281F3R020.3Z4 | SIRA  | 10302923    | 3            | F          | 0.281 | 0.313 | 0.844 | 2.500 | 0.020 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-.313D3R020.3Z4 | SIRA  | 10302924    | 3            | D          | 0.313 | 0.313 | 0.938 | 2.500 | 0.020 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-.375D3R020.3Z4 | SIRA  | 10302925    | 3            | D          | 0.375 | 0.375 | 1.125 | 3.000 | 0.020 | 4     | Weldon | <input checked="" type="checkbox"/> |
| ST5541-.438D3R020.3Z4 | SIRA  | 10302926    | 3            | D          | 0.438 | 0.438 | 1.313 | 4.000 | 0.020 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-.500D3R030.3Z4 | SIRA  | 10302927    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.030 | 4     | Weldon | <input checked="" type="checkbox"/> |
| ST5541-.500D3R060.3Z4 | SIRA  | 10302928    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.060 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-.500D3R120.3Z4 | SIRA  | 10302929    | 3            | D          | 0.500 | 0.500 | 1.250 | 3.000 | 0.120 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-.625D3R030.3Z4 | SIRA  | 10302930    | 3            | D          | 0.625 | 0.625 | 1.875 | 4.000 | 0.030 | 4     | Weldon | <input checked="" type="checkbox"/> |
| ST5541-.625D3R060.3Z4 | SIRA  | 10302931    | 3            | D          | 0.625 | 0.625 | 1.875 | 4.000 | 0.060 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-.625D3R090.3Z4 | SIRA  | 10302932    | 3            | D          | 0.625 | 0.625 | 1.875 | 4.000 | 0.090 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-.625D3R120.3Z4 | SIRA  | 10302933    | 3            | D          | 0.625 | 0.625 | 1.875 | 4.000 | 0.120 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-.750D3R030.3Z4 | SIRA  | 10302934    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 0.030 | 4     | Weldon | <input checked="" type="checkbox"/> |
| ST5541-.750D3R060.3Z4 | SIRA  | 10302935    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 0.060 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-.750D3R090.3Z4 | SIRA  | 10302936    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 0.090 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-.750D3R120.3Z4 | SIRA  | 10302937    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 0.120 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-.750D3R250.3Z4 | SIRA  | 10302938    | 3            | D          | 0.750 | 0.750 | 2.250 | 5.000 | 0.250 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-.875D3R030.3Z4 | SIRA  | 10302939    | 3            | D          | 0.875 | 0.875 | 2.625 | 5.000 | 0.030 | 4     | Weldon | <input type="checkbox"/>            |
| ST5541-1.00D3R030.3Z4 | SIRA  | 10302940    | 3            | D          | 1.000 | 1.000 | 3.000 | 6.000 | 0.030 | 4     | Weldon | <input checked="" type="checkbox"/> |
| ST5541-.500D4R030.3Z4 | SIRA  | 10302941    | 4            | D          | 0.500 | 0.500 | 1.500 | 4.000 | 0.030 | 4     | Weldon | <input checked="" type="checkbox"/> |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

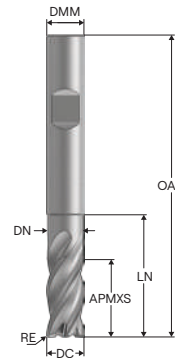
Graphite

X-Heads

Minimaster

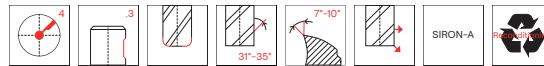
#### ST5541

High performance – Steel – Square – 4 Flutes – Weldon – Corner radius – Inch



E

—Tolerances:  
—DMM= -.0001"/-.0004"  
—DC= +.000" / -.002"  
—RE= ±.0008"  
—Regrind possible



| Designation           | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | LN    | DN    | RE    | PCEDC | Shank  | Stock standard           |
|-----------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------------------------|
| ST5541-.250E2R020.3Z4 | SIRA  | 10302896    | 2            | E          | inch  | inch  | inch  | inch  | inch  | inch  | inch  |       | Weldon | <input type="checkbox"/> |
| ST5541-.313E2R020.3Z4 | SIRA  | 10302899    | 2            | E          | 0.313 | 0.313 | 0.625 | 3.000 | 0.938 | 0.300 | 0.020 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-.375E2R020.3Z4 | SIRA  | 10302901    | 2            | E          | 0.375 | 0.375 | 0.750 | 3.000 | 1.125 | 0.360 | 0.020 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-.438E2R020.3Z4 | SIRA  | 10302903    | 2            | E          | 0.438 | 0.438 | 0.875 | 4.000 | 1.313 | 0.420 | 0.020 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-.500E2R030.3Z4 | SIRA  | 10302906    | 2            | E          | 0.500 | 0.500 | 1.000 | 3.000 | 1.500 | 0.480 | 0.030 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-.625E2R030.3Z4 | SIRA  | 10302912    | 2            | E          | 0.625 | 0.625 | 1.250 | 3.500 | 1.875 | 0.600 | 0.030 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-.750E2R030.3Z4 | SIRA  | 10302918    | 2            | E          | 0.750 | 0.750 | 1.500 | 4.000 | 2.250 | 0.720 | 0.030 | 4     | Weldon | <input type="checkbox"/> |
| ST5541-1.00E2R030.3Z4 | SIRA  | 10302921    | 2            | E          | 1.000 | 1.000 | 2.000 | 5.000 | 3.000 | 0.960 | 0.030 | 4     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

## Cutting data – ST5541 Side milling

| SMG |  | $a_e$ /DC    | $a_p$ /DC  | $f_z$           |                 |                 |                 |                |                 |                |                |                |                | $v_c$                              |                                 |
|-----|-----------------------------------------------------------------------------------|--------------|------------|-----------------|-----------------|-----------------|-----------------|----------------|-----------------|----------------|----------------|----------------|----------------|------------------------------------|---------------------------------|
|     |                                                                                   |              |            | 3               | 4               | 5               | 6               | 8              | 10              | 12             | 16             | 20             | 25             |                                    |                                 |
| P1  | M/A/D/E                                                                           | 0,25<br>0,25 | 1,5<br>1,5 | 0,046<br>0,0018 | 0,06<br>0,0024  | 0,08<br>0,0032  | 0,095<br>0,0038 | 0,12<br>0,0048 | 0,16<br>0,0065  | 0,18<br>0,0070 | 0,22<br>0,0085 | 0,26<br>0,010  | 0,3<br>0,012   | 220 (170 — 230)<br>720 (560 — 750) | Universal                       |
| P2  | M/A/D/E                                                                           | 0,25<br>0,25 | 1,5<br>1,5 | 0,048<br>0,0019 | 0,065<br>0,0026 | 0,08<br>0,0032  | 0,095<br>0,0038 | 0,13<br>0,0050 | 0,16<br>0,0065  | 0,19<br>0,0075 | 0,24<br>0,0095 | 0,26<br>0,010  | 0,3<br>0,012   | 215 (160 — 220)<br>710 (530 — 720) |                                 |
| P3  | M/A/D/E                                                                           | 0,25<br>0,25 | 1,5<br>1,5 | 0,044<br>0,0017 | 0,06<br>0,0024  | 0,075<br>0,0030 | 0,09<br>0,0036  | 0,12<br>0,0048 | 0,15<br>0,0060  | 0,18<br>0,0070 | 0,22<br>0,0085 | 0,25<br>0,010  | 0,28<br>0,011  | 190 (140 — 200)<br>620 (460 — 650) | Steel and cast iron             |
| P4  | M/A/D/E                                                                           | 0,25<br>0,25 | 1,5<br>1,5 | 0,044<br>0,0017 | 0,06<br>0,0024  | 0,075<br>0,0030 | 0,09<br>0,0036  | 0,12<br>0,0048 | 0,15<br>0,0060  | 0,17<br>0,0065 | 0,22<br>0,0085 | 0,25<br>0,010  | 0,28<br>0,011  | 165 (130 — 170)<br>540 (430 — 550) |                                 |
| P5  | M/A/D/E                                                                           | 0,25<br>0,25 | 1,5<br>1,5 | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,07<br>0,0028  | 0,085<br>0,0034 | 0,11<br>0,0044 | 0,14<br>0,0055  | 0,17<br>0,0065 | 0,22<br>0,0085 | 0,24<br>0,0095 | 0,28<br>0,011  | 160 (120 — 170)<br>520 (400 — 550) | Steel and cast iron             |
| P6  | M/A/D/E                                                                           | 0,25<br>0,25 | 1,5<br>1,5 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,07<br>0,0028  | 0,085<br>0,0034 | 0,11<br>0,0044 | 0,14<br>0,0055  | 0,17<br>0,0065 | 0,2<br>0,0080  | 0,24<br>0,0095 | 0,28<br>0,011  | 180 (140 — 190)<br>590 (460 — 620) |                                 |
| P7  | M/A/D/E                                                                           | 0,25<br>0,25 | 1,5<br>1,5 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,07<br>0,0028  | 0,085<br>0,0034 | 0,11<br>0,0044 | 0,14<br>0,0055  | 0,17<br>0,0065 | 0,2<br>0,0080  | 0,24<br>0,0095 | 0,28<br>0,011  | 170 (130 — 180)<br>560 (430 — 590) | Stainless steel and S-materials |
| P8  | M/A/D/E                                                                           | 0,25<br>0,25 | 1,5<br>1,5 | 0,044<br>0,0017 | 0,06<br>0,0024  | 0,075<br>0,0030 | 0,09<br>0,0036  | 0,12<br>0,0048 | 0,15<br>0,0060  | 0,18<br>0,0070 | 0,22<br>0,0085 | 0,25<br>0,010  | 0,28<br>0,011  | 160 (120 — 160)<br>520 (400 — 520) |                                 |
| P11 | M/A/D/E                                                                           | 0,25<br>0,25 | 1,5<br>1,5 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,07<br>0,0028  | 0,085<br>0,0034 | 0,11<br>0,0044 | 0,14<br>0,0055  | 0,17<br>0,0065 | 0,2<br>0,0080  | 0,24<br>0,0095 | 0,28<br>0,011  | 165 (130 — 170)<br>540 (430 — 550) | Stainless steel and S-materials |
| P12 | M/A/D/E                                                                           | 0,25<br>0,25 | 1,5<br>1,5 | 0,03<br>0,0012  | 0,038<br>0,0015 | 0,048<br>0,0019 | 0,06<br>0,0024  | 0,08<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048 | 0,14<br>0,0055 | 0,16<br>0,0065 | 0,19<br>0,0075 | 110 (80 — 110)<br>360 (270 — 360)  |                                 |
| K1  | E                                                                                 | 0,25<br>0,25 | 1,5<br>1,5 | 0,048<br>0,0019 | 0,065<br>0,0026 | 0,08<br>0,0032  | 0,095<br>0,0038 | 0,13<br>0,0050 | 0,16<br>0,0065  | 0,19<br>0,0075 | 0,24<br>0,0095 | 0,26<br>0,010  | 0,3<br>0,012   | 215 (170 — 230)<br>710 (560 — 750) | Non ferrous                     |
| K2  | E                                                                                 | 0,25<br>0,25 | 1,5<br>1,5 | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,07<br>0,0028  | 0,085<br>0,0034 | 0,11<br>0,0044 | 0,14<br>0,0055  | 0,17<br>0,0065 | 0,22<br>0,0085 | 0,24<br>0,0095 | 0,28<br>0,011  | 195 (150 — 200)<br>640 (500 — 650) |                                 |
| K3  | E                                                                                 | 0,25<br>0,25 | 1,5<br>1,5 | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,07<br>0,0028  | 0,085<br>0,0034 | 0,11<br>0,0044 | 0,14<br>0,0055  | 0,17<br>0,0065 | 0,22<br>0,0085 | 0,24<br>0,0095 | 0,28<br>0,011  | 165 (130 — 170)<br>540 (430 — 550) | Non ferrous                     |
| K4  | E                                                                                 | 0,25<br>0,25 | 1,5<br>1,5 | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,07<br>0,0028  | 0,085<br>0,0034 | 0,11<br>0,0044 | 0,14<br>0,0055  | 0,17<br>0,0065 | 0,22<br>0,0085 | 0,24<br>0,0095 | 0,28<br>0,011  | 160 (120 — 160)<br>520 (400 — 520) |                                 |
| K5  | E                                                                                 | 0,25<br>0,25 | 1,5<br>1,5 | 0,038<br>0,0015 | 0,05<br>0,0020  | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,1<br>0,0040  | 0,13<br>0,0050  | 0,15<br>0,0060 | 0,19<br>0,0075 | 0,22<br>0,0085 | 0,25<br>0,010  | 95 (71 — 100)<br>310 (240 — 320)   | Hard                            |
| K6  | E                                                                                 | 0,25<br>0,25 | 1,5<br>1,5 | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,07<br>0,0028  | 0,085<br>0,0034 | 0,11<br>0,0044 | 0,14<br>0,0055  | 0,17<br>0,0065 | 0,22<br>0,0085 | 0,24<br>0,0095 | 0,28<br>0,011  | 140 (110 — 140)<br>460 (370 — 450) |                                 |
| K7  | E                                                                                 | 0,25<br>0,25 | 1,5<br>1,5 | 0,038<br>0,0015 | 0,05<br>0,0020  | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,1<br>0,0040  | 0,13<br>0,0050  | 0,15<br>0,0060 | 0,19<br>0,0075 | 0,22<br>0,0085 | 0,25<br>0,010  | 120 (91 — 130)<br>395 (300 — 420)  | Hard                            |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – ST5541 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |         |        |        |        |        |        |        |        |        | v <sub>c</sub>  |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|
|     |                                                                                   |                    | 3              | 4       | 5      | 6      | 8      | 10     | 12     | 16     | 20     | 25     |                 |
| P1  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,13   | 0,16   | 195 (150 — 200) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0065 | 640 (500 — 650) |
| P2  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,13   | 0,16   | 190 (140 — 200) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0065 | 620 (460 — 650) |
| P3  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,13   | 0,16   | 165 (130 — 170) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0065 | 540 (430 — 550) |
| P4  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,13   | 0,15   | 145 (110 — 150) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0060 | 475 (370 — 490) |
| P5  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,13   | 0,15   | 135 (110 — 140) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0060 | 445 (370 — 450) |
| P6  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,13   | 0,15   | 155 (120 — 160) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0060 | 510 (400 — 520) |
| P7  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,13   | 0,15   | 145 (110 — 150) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0060 | 475 (370 — 490) |
| P8  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,13   | 0,16   | 135 (110 — 140) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0065 | 445 (370 — 450) |
| P11 | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,13   | 0,15   | 140 (110 — 150) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0060 | 460 (370 — 490) |
| P12 | M/A/D/E                                                                           | 1,5                | 0,016          | 0,022   | 0,026  | 0,032  | 0,042  | 0,055  | 0,065  | 0,080  | 0,090  | 0,10   | 85 (64 — 92)    |
|     |                                                                                   | 1,5                | 0.00065        | 0.00085 | 0.0010 | 0.0013 | 0.0017 | 0.0022 | 0.0026 | 0.0032 | 0.0036 | 0.0040 | 280 (210 — 300) |
| K1  | E                                                                                 | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,13   | 0,16   | 190 (150 — 200) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0065 | 620 (500 — 650) |
| K2  | E                                                                                 | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,13   | 0,15   | 165 (130 — 170) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0060 | 540 (430 — 550) |
| K3  | E                                                                                 | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,13   | 0,15   | 140 (110 — 140) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0060 | 460 (370 — 450) |
| K4  | E                                                                                 | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,13   | 0,15   | 135 (99 — 140)  |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0060 | 445 (330 — 450) |
| K5  | E                                                                                 | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,12   | 0,13   | 80 (59 — 85)    |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0048 | 0.0050 | 260 (200 — 270) |
| K6  | E                                                                                 | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,13   | 0,15   | 120 (87 — 120)  |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0060 | 395 (290 — 390) |
| K7  | E                                                                                 | 1,5                | 0,020          | 0,026   | 0,032  | 0,040  | 0,050  | 0,065  | 0,080  | 0,10   | 0,12   | 0,13   | 100 (76 — 100)  |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0013 | 0.0016 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0048 | 0.0050 | 330 (250 — 320) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
 Coolant = A=air D=dry E=emulsion M=mist spray  
 v<sub>c</sub> = m/min (sf/min)  
 f<sub>z</sub> = mm (in/tooth)  
 a<sub>p</sub> = mm/DC (in/DC) = factor  
 a<sub>e</sub> = mm/DC (in/DC) = factor  
 All cutting data are target values



## Cutting data – ST5541 Side milling – Inch

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |        |        |        |        |        |        |        |        |        |        |        |        |        |                 | v <sub>c</sub> |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|----------------|
|     |                                                                                   |                    |                    | 1/8            | 5/32   | 3/16   | 7/32   | 1/4    | 9/32   | 5/16   | 3/8    | 7/16   | 1/2    | 5/8    | 3/4    | 7/8    | 1      |                 |                |
| P1  | M/A/D/E                                                                           | 0,25               | 1,5                | 0,05           | 0,06   | 0,075  | 0,085  | 0,1    | 0,11   | 0,12   | 0,15   | 0,17   | 0,19   | 0,22   | 0,25   | 0,28   | 0,3    | 220 (170 — 230) |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0020         | 0,0024 | 0,0030 | 0,0034 | 0,0040 | 0,0044 | 0,0048 | 0,0060 | 0,0065 | 0,0075 | 0,0085 | 0,010  | 0,011  | 0,012  | 720 (560 — 750) |                |
| P2  | M/A/D/E                                                                           | 0,25               | 1,5                | 0,05           | 0,065  | 0,075  | 0,09   | 0,1    | 0,11   | 0,13   | 0,15   | 0,17   | 0,2    | 0,24   | 0,26   | 0,28   | 0,3    | 215 (160 — 220) |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0020         | 0,0026 | 0,0030 | 0,0036 | 0,0040 | 0,0044 | 0,0050 | 0,0060 | 0,0065 | 0,0080 | 0,0095 | 0,010  | 0,011  | 0,012  | 710 (530 — 720) |                |
| P3  | M/A/D/E                                                                           | 0,25               | 1,5                | 0,048          | 0,06   | 0,07   | 0,085  | 0,095  | 0,11   | 0,12   | 0,14   | 0,17   | 0,18   | 0,22   | 0,25   | 0,26   | 0,28   | 190 (140 — 200) |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0019         | 0,0024 | 0,0028 | 0,0034 | 0,0038 | 0,0044 | 0,0048 | 0,0055 | 0,0065 | 0,0070 | 0,0085 | 0,010  | 0,010  | 0,011  | 620 (460 — 650) |                |
| P4  | M/A/D/E                                                                           | 0,25               | 1,5                | 0,046          | 0,06   | 0,07   | 0,08   | 0,095  | 0,1    | 0,12   | 0,14   | 0,16   | 0,18   | 0,22   | 0,24   | 0,26   | 0,28   | 165 (130 — 170) |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0018         | 0,0024 | 0,0028 | 0,0032 | 0,0038 | 0,0040 | 0,0048 | 0,0055 | 0,0065 | 0,0070 | 0,0085 | 0,0095 | 0,010  | 0,011  | 540 (430 — 550) |                |
| P5  | M/A/D/E                                                                           | 0,25               | 1,5                | 0,046          | 0,055  | 0,07   | 0,08   | 0,09   | 0,1    | 0,11   | 0,14   | 0,16   | 0,18   | 0,2    | 0,24   | 0,26   | 0,28   | 160 (120 — 170) |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0018         | 0,0022 | 0,0028 | 0,0032 | 0,0036 | 0,0040 | 0,0044 | 0,0055 | 0,0065 | 0,0070 | 0,0080 | 0,0095 | 0,010  | 0,011  | 520 (400 — 550) |                |
| P6  | M/A/D/E                                                                           | 0,25               | 1,5                | 0,046          | 0,055  | 0,07   | 0,08   | 0,09   | 0,1    | 0,11   | 0,14   | 0,16   | 0,18   | 0,2    | 0,24   | 0,26   | 0,28   | 180 (140 — 190) |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0018         | 0,0022 | 0,0028 | 0,0032 | 0,0036 | 0,0040 | 0,0044 | 0,0055 | 0,0065 | 0,0070 | 0,0080 | 0,0095 | 0,010  | 0,011  | 590 (460 — 620) |                |
| P7  | M/A/D/E                                                                           | 0,25               | 1,5                | 0,046          | 0,055  | 0,07   | 0,08   | 0,09   | 0,1    | 0,11   | 0,14   | 0,16   | 0,18   | 0,2    | 0,24   | 0,26   | 0,28   | 170 (130 — 180) |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0018         | 0,0022 | 0,0028 | 0,0032 | 0,0036 | 0,0040 | 0,0044 | 0,0055 | 0,0065 | 0,0070 | 0,0080 | 0,0095 | 0,010  | 0,011  | 560 (430 — 590) |                |
| P8  | M/A/D/E                                                                           | 0,25               | 1,5                | 0,048          | 0,06   | 0,07   | 0,085  | 0,095  | 0,11   | 0,12   | 0,14   | 0,17   | 0,18   | 0,22   | 0,25   | 0,26   | 0,28   | 160 (120 — 160) |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0019         | 0,0024 | 0,0028 | 0,0034 | 0,0038 | 0,0044 | 0,0048 | 0,0055 | 0,0065 | 0,0070 | 0,0085 | 0,010  | 0,010  | 0,011  | 520 (400 — 520) |                |
| P11 | M/A/D/E                                                                           | 0,25               | 1,5                | 0,046          | 0,055  | 0,07   | 0,08   | 0,09   | 0,1    | 0,11   | 0,14   | 0,16   | 0,18   | 0,2    | 0,24   | 0,26   | 0,28   | 165 (130 — 170) |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0018         | 0,0022 | 0,0028 | 0,0032 | 0,0036 | 0,0040 | 0,0044 | 0,0055 | 0,0065 | 0,0070 | 0,0080 | 0,0095 | 0,010  | 0,011  | 540 (430 — 550) |                |
| P12 | M/A/D/E                                                                           | 0,25               | 1,5                | 0,03           | 0,038  | 0,046  | 0,055  | 0,06   | 0,07   | 0,075  | 0,095  | 0,11   | 0,12   | 0,14   | 0,16   | 0,18   | 0,19   | 110 (80 — 110)  |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0012         | 0,0015 | 0,0018 | 0,0022 | 0,0024 | 0,0028 | 0,0030 | 0,0038 | 0,0044 | 0,0048 | 0,0055 | 0,0065 | 0,0070 | 0,0075 | 360 (270 — 360) |                |
| K1  | E                                                                                 | 0,25               | 1,5                | 0,05           | 0,065  | 0,075  | 0,09   | 0,1    | 0,11   | 0,13   | 0,15   | 0,17   | 0,2    | 0,24   | 0,26   | 0,28   | 0,3    | 215 (170 — 230) |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0020         | 0,0026 | 0,0030 | 0,0036 | 0,0040 | 0,0044 | 0,0050 | 0,0060 | 0,0065 | 0,0080 | 0,0095 | 0,010  | 0,011  | 0,012  | 710 (560 — 750) |                |
| K2  | E                                                                                 | 0,25               | 1,5                | 0,046          | 0,055  | 0,07   | 0,08   | 0,09   | 0,1    | 0,11   | 0,14   | 0,16   | 0,18   | 0,2    | 0,24   | 0,26   | 0,28   | 195 (150 — 200) |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0018         | 0,0022 | 0,0028 | 0,0032 | 0,0036 | 0,0040 | 0,0044 | 0,0055 | 0,0065 | 0,0070 | 0,0080 | 0,0095 | 0,010  | 0,011  | 640 (500 — 650) |                |
| K3  | E                                                                                 | 0,25               | 1,5                | 0,046          | 0,055  | 0,07   | 0,08   | 0,09   | 0,1    | 0,11   | 0,14   | 0,16   | 0,18   | 0,2    | 0,24   | 0,26   | 0,28   | 165 (130 — 170) |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0018         | 0,0022 | 0,0028 | 0,0032 | 0,0036 | 0,0040 | 0,0044 | 0,0055 | 0,0065 | 0,0070 | 0,0080 | 0,0095 | 0,010  | 0,011  | 540 (430 — 550) |                |
| K4  | E                                                                                 | 0,25               | 1,5                | 0,046          | 0,055  | 0,07   | 0,08   | 0,09   | 0,1    | 0,11   | 0,14   | 0,16   | 0,18   | 0,2    | 0,24   | 0,26   | 0,28   | 160 (120 — 160) |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0018         | 0,0022 | 0,0028 | 0,0032 | 0,0036 | 0,0040 | 0,0044 | 0,0055 | 0,0065 | 0,0070 | 0,0080 | 0,0095 | 0,010  | 0,011  | 520 (400 — 520) |                |
| K5  | E                                                                                 | 0,25               | 1,5                | 0,04           | 0,05   | 0,06   | 0,07   | 0,08   | 0,09   | 0,1    | 0,12   | 0,14   | 0,16   | 0,19   | 0,22   | 0,24   | 0,25   | 95 (71 — 100)   |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0016         | 0,0020 | 0,0024 | 0,0028 | 0,0032 | 0,0036 | 0,0040 | 0,0048 | 0,0055 | 0,0065 | 0,0075 | 0,0085 | 0,0095 | 0,010  | 310 (240 — 320) |                |
| K6  | E                                                                                 | 0,25               | 1,5                | 0,046          | 0,055  | 0,07   | 0,08   | 0,09   | 0,1    | 0,11   | 0,14   | 0,16   | 0,18   | 0,2    | 0,24   | 0,26   | 0,28   | 140 (110 — 140) |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0018         | 0,0022 | 0,0028 | 0,0032 | 0,0036 | 0,0040 | 0,0044 | 0,0055 | 0,0065 | 0,0070 | 0,0080 | 0,0095 | 0,010  | 0,011  | 460 (370 — 450) |                |
| K7  | E                                                                                 | 0,25               | 1,5                | 0,04           | 0,05   | 0,06   | 0,07   | 0,08   | 0,09   | 0,1    | 0,12   | 0,14   | 0,16   | 0,19   | 0,22   | 0,24   | 0,25   | 120 (91 — 130)  |                |
|     |                                                                                   | 0,25               | 1,5                | 0,0016         | 0,0020 | 0,0024 | 0,0028 | 0,0032 | 0,0036 | 0,0040 | 0,0048 | 0,0055 | 0,0065 | 0,0075 | 0,0085 | 0,0095 | 0,010  | 395 (300 — 420) |                |
|     |                                                                                   |                    |                    |                |        |        |        |        |        |        |        |        |        |        |        |        |        |                 |                |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfprp

Graphite

X-Heads

Minimaster

#### Cutting data – ST5541 Slot milling – Inch

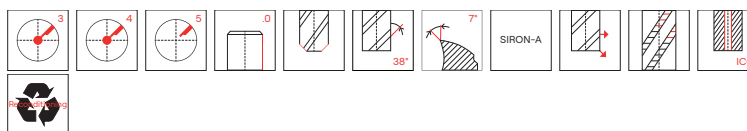
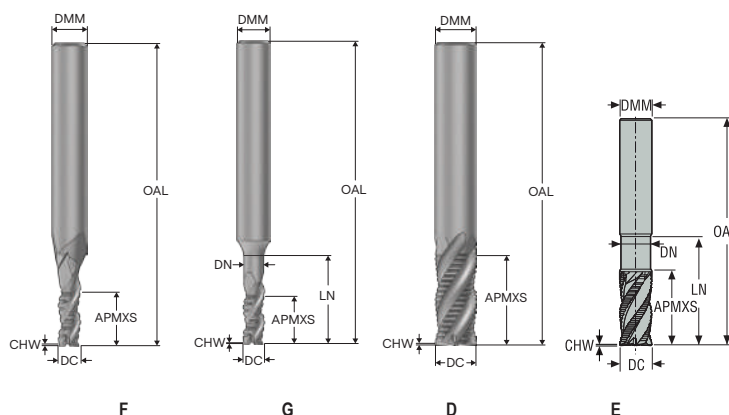
| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |         |        |        |        |        |        |        |        |        |        |        |        |        | v <sub>c</sub>  |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|
|     |                                                                                   |                    | 1/8            | 5/32    | 3/16   | 7/32   | 1/4    | 9/32   | 5/16   | 3/8    | 7/16   | 1/2    | 5/8    | 3/4    | 7/8    | 1      |                 |
| P1  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,14   | 0,16   | 195 (150 — 200) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0055 | 0.0065 | 640 (500 — 650) |
| P2  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,14   | 0,17   | 190 (140 — 200) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0055 | 0.0065 | 620 (460 — 650) |
| P3  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,14   | 0,16   | 165 (130 — 170) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0055 | 0.0065 | 540 (430 — 550) |
| P4  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,14   | 0,15   | 145 (110 — 150) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0055 | 0.0060 | 475 (370 — 490) |
| P5  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,14   | 0,15   | 135 (110 — 140) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0055 | 0.0060 | 445 (370 — 450) |
| P6  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,14   | 0,15   | 155 (120 — 160) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0055 | 0.0060 | 510 (400 — 520) |
| P7  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,14   | 0,15   | 145 (110 — 150) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0055 | 0.0060 | 475 (370 — 490) |
| P8  | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,14   | 0,16   | 135 (110 — 140) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0055 | 0.0065 | 445 (370 — 450) |
| P11 | M/A/D/E                                                                           | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,14   | 0,15   | 140 (110 — 150) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0055 | 0.0060 | 460 (370 — 490) |
| P12 | M/A/D/E                                                                           | 1,5                | 0,017          | 0,022   | 0,025  | 0,030  | 0,034  | 0,038  | 0,042  | 0,050  | 0,060  | 0,065  | 0,080  | 0,085  | 0,095  | 0,10   | 85 (64 — 92)    |
|     |                                                                                   | 1,5                | 0.00065        | 0.00085 | 0.0010 | 0.0012 | 0.0013 | 0.0015 | 0.0017 | 0.0020 | 0.0024 | 0.0026 | 0.0032 | 0.0034 | 0.0038 | 0.0040 | 280 (210 — 300) |
| K1  | E                                                                                 | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,14   | 0,17   | 190 (150 — 200) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0055 | 0.0065 | 620 (500 — 650) |
| K2  | E                                                                                 | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,14   | 0,15   | 165 (130 — 170) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0055 | 0.0060 | 540 (430 — 550) |
| K3  | E                                                                                 | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,14   | 0,15   | 140 (110 — 140) |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0055 | 0.0060 | 460 (370 — 450) |
| K4  | E                                                                                 | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,14   | 0,15   | 135 (99 — 140)  |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0055 | 0.0060 | 445 (330 — 450) |
| K5  | E                                                                                 | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,13   | 0,14   | 80 (59 — 85)    |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0050 | 0.0055 | 260 (200 — 270) |
| K6  | E                                                                                 | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,14   | 0,15   | 120 (87 — 120)  |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0055 | 0.0060 | 395 (290 — 390) |
| K7  | E                                                                                 | 1,5                | 0,020          | 0,026   | 0,030  | 0,036  | 0,042  | 0,046  | 0,050  | 0,060  | 0,070  | 0,085  | 0,10   | 0,12   | 0,13   | 0,14   | 100 (76 — 100)  |
|     |                                                                                   | 1,5                | 0.00080        | 0.0010  | 0.0012 | 0.0014 | 0.0017 | 0.0018 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 0.0050 | 0.0055 | 330 (250 — 320) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
v<sub>c</sub> = m/min (sf/min)  
f<sub>z</sub> = mm (in/tooth)  
a<sub>p</sub> = mm/DC (in/DC) = factor  
a<sub>e</sub> = mm/DC (in/DC) = factor  
All cutting data are target values

## JHP993

High performance – Steel – Square – 3-5 Flutes – Cylindrical – Chamfer



- Tolerances:
- DMM=h5
- DC=-0,02/-0,1 mm
- CHW=  $\pm 0,05$  mm
- Regrind possible if DC is  $\geq 06$

| Designation            | Item number | Length index | Tool shape | Chip splitters | Dimensions |      |      |       |       |      |      |      |   |             | PCEDC | Shank | Stock standard |
|------------------------|-------------|--------------|------------|----------------|------------|------|------|-------|-------|------|------|------|---|-------------|-------|-------|----------------|
|                        |             |              |            |                | CSP        | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW  |   |             |       |       |                |
|                        |             |              |            |                |            | mm   | mm   | mm    | mm    | mm   | mm   | mm   |   |             |       |       |                |
| JHP993040F2C.0Z3-SIRA  | 02826806    | 2            | F          | ■              | –          | 4,0  | 6,0  | 10,0  | 50,0  | –    | –    | 0,15 | 3 | Cylindrical | ■     |       |                |
| JHP993050F2C.0Z4-SIRA  | 02826808    | 2            | F          | ■              | –          | 5,0  | 6,0  | 12,0  | 55,0  | –    | –    | 0,15 | 4 | Cylindrical | ■     |       |                |
| JHP993060D2C.0Z4-SIRA  | 02826809    | 2            | D          | ■              | –          | 6,0  | 6,0  | 14,0  | 55,0  | –    | –    | 0,2  | 4 | Cylindrical | ■     |       |                |
| JHP993075F2C.0Z4-SIRA  | 02826811    | 2            | F          | ■              | –          | 7,5  | 8,0  | 17,0  | 60,0  | –    | –    | 0,2  | 4 | Cylindrical | ■     |       |                |
| JHP993080D2C.0Z4A-SIRA | 02826814    | 2            | D          | ■              | ■          | 8,0  | 8,0  | 18,0  | 60,0  | –    | –    | 0,2  | 4 | Cylindrical | ■     |       |                |
| JHP993080D2C.0Z4-SIRA  | 02826812    | 2            | D          | ■              | –          | 8,0  | 8,0  | 18,0  | 60,0  | –    | –    | 0,2  | 4 | Cylindrical | ■     |       |                |
| JHP993095F2C.0Z4-SIRA  | 02826816    | 2            | F          | ■              | –          | 9,5  | 10,0 | 20,0  | 70,0  | –    | –    | 0,2  | 4 | Cylindrical | ■     |       |                |
| JHP993100D2C.0Z4A-SIRA | 02826818    | 2            | D          | ■              | ■          | 10,0 | 10,0 | 22,0  | 70,0  | –    | –    | 0,2  | 4 | Cylindrical | ■     |       |                |
| JHP993100D2C.0Z4-SIRA  | 02826817    | 2            | D          | ■              | –          | 10,0 | 10,0 | 22,0  | 70,0  | –    | –    | 0,2  | 4 | Cylindrical | ■     |       |                |
| JHP993115F2C.0Z4-SIRA  | 02826820    | 2            | F          | ■              | –          | 11,5 | 12,0 | 25,0  | 80,0  | –    | –    | 0,2  | 4 | Cylindrical | ■     |       |                |
| JHP993120D2C.0Z4A-SIRA | 02826822    | 2            | D          | ■              | ■          | 12,0 | 12,0 | 26,0  | 80,0  | –    | –    | 0,2  | 4 | Cylindrical | ■     |       |                |
| JHP993120D2C.0Z4-SIRA  | 02826821    | 2            | D          | ■              | –          | 12,0 | 12,0 | 26,0  | 80,0  | –    | –    | 0,2  | 4 | Cylindrical | ■     |       |                |
| JHP993140D2C.0Z4-SIRA  | 02826824    | 2            | D          | ■              | –          | 14,0 | 14,0 | 30,0  | 80,0  | –    | –    | 0,3  | 4 | Cylindrical | ■     |       |                |
| JHP993160D2C.0Z4A-SIRA | 02856501    | 2            | D          | ■              | ■          | 16,0 | 16,0 | 34,0  | 90,0  | –    | –    | 0,3  | 4 | Cylindrical | ■     |       |                |
| JHP993160D2C.0Z4-SIRA  | 02856499    | 2            | D          | ■              | –          | 16,0 | 16,0 | 34,0  | 90,0  | –    | –    | 0,3  | 4 | Cylindrical | ■     |       |                |
| JHP993160D2C.0Z5-SIRA  | 02826825    | 2            | D          | ■              | –          | 16,0 | 16,0 | 34,0  | 90,0  | –    | –    | 0,3  | 5 | Cylindrical | ■     |       |                |
| JHP993200D2C.0Z4A-SIRA | 02856506    | 2            | D          | ■              | ■          | 20,0 | 20,0 | 42,0  | 100,0 | –    | –    | 0,5  | 4 | Cylindrical | ■     |       |                |
| JHP993200D2C.0Z4-SIRA  | 02856505    | 2            | D          | ■              | –          | 20,0 | 20,0 | 42,0  | 100,0 | –    | –    | 0,5  | 4 | Cylindrical | ■     |       |                |
| JHP993200D2C.0Z5-SIRA  | 02826828    | 2            | D          | ■              | –          | 20,0 | 20,0 | 42,0  | 100,0 | –    | –    | 0,5  | 5 | Cylindrical | ■     |       |                |
| JHP993250D2C.0Z4A-SIRA | 02856510    | 2            | D          | ■              | ■          | 25,0 | 25,0 | 52,0  | 125,0 | –    | –    | 0,5  | 4 | Cylindrical | ■     |       |                |
| JHP993040G3C.0Z3-SIRA  | 02826807    | 3            | G          | ■              | –          | 4,0  | 6,0  | 10,0  | 55,0  | 15,0 | 3,7  | 0,15 | 3 | Cylindrical | ■     |       |                |
| JHP993060E3C.0Z4-SIRA  | 02826810    | 3            | E          | ■              | –          | 6,0  | 6,0  | 14,0  | 65,0  | 24,0 | 5,6  | 0,2  | 4 | Cylindrical | ■     |       |                |
| JHP993080E3C.0Z4-SIRA  | 02826815    | 3            | E          | ■              | –          | 8,0  | 8,0  | 18,0  | 70,0  | 32,0 | 7,4  | 0,2  | 4 | Cylindrical | ■     |       |                |
| JHP993100E3C.0Z4-SIRA  | 02826819    | 3            | E          | ■              | –          | 10,0 | 10,0 | 22,0  | 85,0  | 40,0 | 9,4  | 0,2  | 4 | Cylindrical | ■     |       |                |
| JHP993120E3C.0Z4-SIRA  | 02826823    | 3            | E          | ■              | –          | 12,0 | 12,0 | 26,0  | 100,0 | 50,0 | 11,4 | 0,2  | 4 | Cylindrical | ■     |       |                |
| JHP993160E3C.0Z4-SIRA  | 02856502    | 3            | E          | ■              | –          | 16,0 | 16,0 | 34,0  | 110,0 | 60,0 | 15,4 | 0,3  | 4 | Cylindrical | ■     |       |                |
| JHP993200E3C.0Z4-SIRA  | 02856507    | 3            | E          | ■              | –          | 20,0 | 20,0 | 42,0  | 125,0 | 70,0 | 19,2 | 0,5  | 4 | Cylindrical | ■     |       |                |

■ Stocked standard.

Universal

and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Har

## Plastic and cfrp

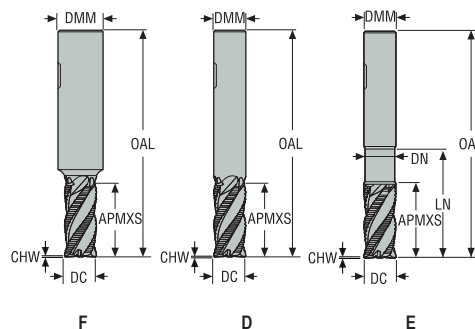
Graphite

## X-Heads

Minimaster

## JHP993

High performance – Steel – Square – 3-5 Flutes – Weldon – Chamfer



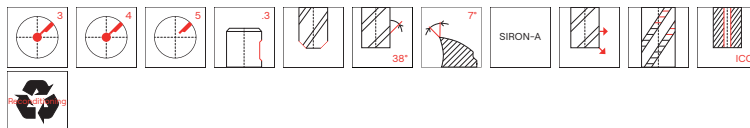
—Tolerances:

—DMM=h5

—DC= -0,02/-0,1 mm

—CHW= ±0,05 mm

—Regrind possible if DC is ≥Ø6



| Designation            | Item number | Length index | Tool shape | Chip splitters | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW  | PCEDC | Shank  | Stock standard |
|------------------------|-------------|--------------|------------|----------------|-----|------|------|-------|-------|------|------|------|-------|--------|----------------|
| JHP993040F2C.3Z3-SIRA  | 02828150    | 2            | F          | ■              | —   | 4,0  | 6,0  | 10,0  | 50,0  | —    | —    | 0,15 | 3     | Weldon | ■              |
| JHP993050F2C.3Z4-SIRA  | 02828152    | 2            | F          | ■              | —   | 5,0  | 6,0  | 12,0  | 55,0  | —    | —    | 0,15 | 4     | Weldon | ■              |
| JHP993060D2C.3Z4-SIRA  | 02828153    | 2            | D          | ■              | —   | 6,0  | 6,0  | 14,0  | 55,0  | —    | —    | 0,2  | 4     | Weldon | ■              |
| JHP993075F2C.3Z4-SIRA  | 02828155    | 2            | F          | ■              | —   | 7,5  | 8,0  | 17,0  | 60,0  | —    | —    | 0,2  | 4     | Weldon | ■              |
| JHP993080D2C.3Z4A-SIRA | 02828246    | 2            | D          | ■              | ■   | 8,0  | 8,0  | 18,0  | 60,0  | —    | —    | 0,2  | 4     | Weldon | □              |
| JHP993080D2C.3Z4-SIRA  | 02828156    | 2            | D          | ■              | —   | 8,0  | 8,0  | 18,0  | 60,0  | —    | —    | 0,2  | 4     | Weldon | ■              |
| JHP993095F2C.3Z4-SIRA  | 02828158    | 2            | F          | ■              | —   | 9,5  | 10,0 | 20,0  | 70,0  | —    | —    | 0,2  | 4     | Weldon | ■              |
| JHP993100D2C.3Z4A-SIRA | 02828247    | 2            | D          | ■              | ■   | 10,0 | 10,0 | 22,0  | 70,0  | —    | —    | 0,2  | 4     | Weldon | □              |
| JHP993100D2C.3Z4-SIRA  | 02828159    | 2            | D          | ■              | —   | 10,0 | 10,0 | 22,0  | 70,0  | —    | —    | 0,2  | 4     | Weldon | ■              |
| JHP993120D2C.3Z4A-SIRA | 02828248    | 2            | D          | ■              | ■   | 12,0 | 12,0 | 26,0  | 80,0  | —    | —    | 0,2  | 4     | Weldon | □              |
| JHP993120D2C.3Z4-SIRA  | 02828162    | 2            | D          | ■              | —   | 12,0 | 12,0 | 26,0  | 80,0  | —    | —    | 0,2  | 4     | Weldon | ■              |
| JHP993140D2C.3Z4-SIRA  | 02828164    | 2            | D          | ■              | —   | 14,0 | 14,0 | 30,0  | 80,0  | —    | —    | 0,3  | 4     | Weldon | ■              |
| JHP993160D2C.3Z4A-SIRA | 02856512    | 2            | D          | ■              | ■   | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 0,3  | 4     | Weldon | ■              |
| JHP993160D2C.3Z4-SIRA  | 02856500    | 2            | D          | ■              | —   | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 0,3  | 4     | Weldon | ■              |
| JHP993160D2C.3Z5-SIRA  | 02828165    | 2            | D          | ■              | —   | 16,0 | 16,0 | 34,0  | 90,0  | —    | —    | 0,3  | 5     | Weldon | ■              |
| JHP993200D2C.3Z4A-SIRA | 02856513    | 2            | D          | ■              | ■   | 20,0 | 20,0 | 42,0  | 100,0 | —    | —    | 0,5  | 4     | Weldon | ■              |
| JHP993200D2C.3Z4-SIRA  | 02856504    | 2            | D          | ■              | —   | 20,0 | 20,0 | 42,0  | 100,0 | —    | —    | 0,5  | 4     | Weldon | ■              |
| JHP993200D2C.3Z5-SIRA  | 02828167    | 2            | D          | ■              | —   | 20,0 | 20,0 | 42,0  | 100,0 | —    | —    | 0,5  | 5     | Weldon | ■              |
| JHP993250D2C.3Z4A-SIRA | 02856514    | 2            | D          | ■              | ■   | 25,0 | 25,0 | 52,0  | 125,0 | —    | —    | 0,5  | 4     | Weldon | ■              |
| JHP993250D2C.3Z4-SIRA  | 02856509    | 2            | D          | ■              | —   | 25,0 | 25,0 | 52,0  | 125,0 | —    | —    | 0,5  | 4     | Weldon | ■              |
| JHP993060E3C.3Z4-SIRA  | 02828154    | 3            | E          | ■              | —   | 6,0  | 6,0  | 14,0  | 65,0  | 24,0 | 5,6  | 0,2  | 4     | Weldon | ■              |
| JHP993080E3C.3Z4-SIRA  | 02828157    | 3            | E          | ■              | —   | 8,0  | 8,0  | 18,0  | 70,0  | 32,0 | 7,4  | 0,2  | 4     | Weldon | ■              |
| JHP993100E3C.3Z4-SIRA  | 02828160    | 3            | E          | ■              | —   | 10,0 | 10,0 | 22,0  | 85,0  | 40,0 | 9,4  | 0,2  | 4     | Weldon | ■              |
| JHP993120E3C.3Z4-SIRA  | 02828163    | 3            | E          | ■              | —   | 12,0 | 12,0 | 26,0  | 100,0 | 50,0 | 11,4 | 0,2  | 4     | Weldon | ■              |
| JHP993160E3C.3Z4-SIRA  | 02856503    | 3            | E          | ■              | —   | 16,0 | 16,0 | 34,0  | 110,0 | 60,0 | 15,4 | 0,3  | 4     | Weldon | ■              |
| JHP993200E3C.3Z4-SIRA  | 02856508    | 3            | E          | ■              | —   | 20,0 | 20,0 | 42,0  | 125,0 | 70,0 | 19,2 | 0,5  | 4     | Weldon | ■              |
| JHP993200E3C.3Z5-SIRA  | 02828168    | 3            | E          | ■              | —   | 20,0 | 20,0 | 42,0  | 125,0 | 70,0 | 19,2 | 0,5  | 5     | Weldon | ■              |
| JHP993250E3C.3Z4-SIRA  | 02856511    | 3            | E          | ■              | —   | 25,0 | 25,0 | 52,0  | 150,0 | 90,0 | 24,0 | 0,5  | 4     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

## Cutting data – JHP993 Side milling PCEDC=3 and PCEDC=4

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$           |                 |                 |                 |                 |                 |                 |                |                |                | $v_c$                              |                                      |
|-----|-----------------------------------------------------------------------------------|----------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|------------------------------------|--------------------------------------|
|     |                                                                                   |                |            | 4               | 5               | 6               | 8               | 10              | 12              | 14              | 16             | 20             | 25             |                                    |                                      |
| P1  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.044<br>0.0017 | 0.055<br>0.0022 | 0.065<br>0.0026 | 0.090<br>0.0036 | 0.11<br>0.0044  | 0.13<br>0.0050  | 0.15<br>0.0060  | 0.16<br>0.0065 | 0.19<br>0.0075 | 0.22<br>0.0085 | 230 (200 — 260)<br>750 (660 — 850) | Universal<br><br>Steel and cast iron |
| P2  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.044<br>0.0017 | 0.055<br>0.0022 | 0.065<br>0.0026 | 0.090<br>0.0036 | 0.11<br>0.0044  | 0.13<br>0.0050  | 0.15<br>0.0060  | 0.17<br>0.0065 | 0.19<br>0.0075 | 0.22<br>0.0085 | 225 (200 — 250)<br>740 (660 — 820) |                                      |
| P3  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.042<br>0.0017 | 0.055<br>0.0022 | 0.065<br>0.0026 | 0.085<br>0.0034 | 0.11<br>0.0044  | 0.13<br>0.0050  | 0.14<br>0.0055  | 0.16<br>0.0065 | 0.18<br>0.0070 | 0.20<br>0.0080 | 195 (170 — 220)<br>640 (560 — 720) |                                      |
| P4  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.042<br>0.0017 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.085<br>0.0034 | 0.10<br>0.0040  | 0.12<br>0.0048  | 0.14<br>0.0055  | 0.15<br>0.0060 | 0.18<br>0.0070 | 0.20<br>0.0080 | 175 (150 — 190)<br>570 (500 — 620) |                                      |
| P5  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040  | 0.12<br>0.0048  | 0.14<br>0.0055  | 0.15<br>0.0060 | 0.17<br>0.0065 | 0.20<br>0.0080 | 165 (150 — 190)<br>540 (500 — 620) |                                      |
| P6  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040  | 0.12<br>0.0048  | 0.14<br>0.0055  | 0.15<br>0.0060 | 0.17<br>0.0065 | 0.19<br>0.0075 | 185 (160 — 210)<br>610 (530 — 680) |                                      |
| P7  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040  | 0.12<br>0.0048  | 0.14<br>0.0055  | 0.15<br>0.0060 | 0.17<br>0.0065 | 0.19<br>0.0075 | 175 (160 — 200)<br>570 (530 — 650) |                                      |
| P8  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.042<br>0.0017 | 0.055<br>0.0022 | 0.065<br>0.0026 | 0.085<br>0.0034 | 0.11<br>0.0044  | 0.13<br>0.0050  | 0.14<br>0.0055  | 0.16<br>0.0065 | 0.18<br>0.0070 | 0.20<br>0.0080 | 160 (140 — 180)<br>520 (460 — 590) |                                      |
| P11 | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040  | 0.12<br>0.0048  | 0.14<br>0.0055  | 0.15<br>0.0060 | 0.17<br>0.0065 | 0.19<br>0.0075 | 170 (150 — 190)<br>560 (500 — 620) |                                      |
| P12 | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.028<br>0.0011 | 0.034<br>0.0013 | 0.042<br>0.0017 | 0.055<br>0.0022 | 0.070<br>0.0028 | 0.080<br>0.0032 | 0.095<br>0.0038 | 0.10<br>0.0040 | 0.12<br>0.0048 | 0.13<br>0.0050 | 110 (95 — 120)<br>360 (320 — 390)  |                                      |
| K1  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.044<br>0.0017 | 0.055<br>0.0022 | 0.065<br>0.0026 | 0.090<br>0.0036 | 0.11<br>0.0044  | 0.13<br>0.0050  | 0.15<br>0.0060  | 0.17<br>0.0065 | 0.19<br>0.0075 | 0.22<br>0.0085 | 225 (200 — 250)<br>740 (660 — 820) | Non ferrous                          |
| K2  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040  | 0.12<br>0.0048  | 0.14<br>0.0055  | 0.15<br>0.0060 | 0.17<br>0.0065 | 0.20<br>0.0080 | 200 (180 — 220)<br>660 (600 — 720) |                                      |
| K3  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040  | 0.12<br>0.0048  | 0.14<br>0.0055  | 0.15<br>0.0060 | 0.17<br>0.0065 | 0.20<br>0.0080 | 170 (150 — 190)<br>560 (500 — 620) |                                      |
| K4  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040  | 0.12<br>0.0048  | 0.14<br>0.0055  | 0.15<br>0.0060 | 0.17<br>0.0065 | 0.20<br>0.0080 | 160 (140 — 180)<br>520 (460 — 590) |                                      |
| K5  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.036<br>0.0014 | 0.046<br>0.0018 | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.11<br>0.0044  | 0.12<br>0.0048  | 0.14<br>0.0055 | 0.16<br>0.0065 | 0.18<br>0.0070 | 100 (86 — 110)<br>330 (290 — 360)  | Hard                                 |
| K6  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.040<br>0.0016 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040  | 0.12<br>0.0048  | 0.14<br>0.0055  | 0.15<br>0.0060 | 0.17<br>0.0065 | 0.20<br>0.0080 | 145 (130 — 160)<br>475 (430 — 520) |                                      |
| K7  | E/M/A                                                                             | 0.400<br>0.400 | 1.7<br>1.7 | 0.036<br>0.0014 | 0.046<br>0.0018 | 0.055<br>0.0022 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.11<br>0.0044  | 0.12<br>0.0048  | 0.14<br>0.0055 | 0.16<br>0.0065 | 0.18<br>0.0070 | 125 (110 — 140)<br>410 (370 — 450) |                                      |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JHP993 Side milling PCEDC=5

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$          |                | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|------------|----------------|----------------|------------------------------------|
|     |                                                                                   |                |            | 16             | 20             |                                    |
| P1  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.17<br>0.0065 | 0.22<br>0.0085 | 205 (180 — 230)<br>670 (600 — 750) |
| P2  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.18<br>0.0070 | 0.22<br>0.0085 | 195 (170 — 220)<br>640 (560 — 720) |
| P3  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.17<br>0.0065 | 0.20<br>0.0080 | 170 (150 — 190)<br>560 (500 — 620) |
| P4  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.16<br>0.0065 | 0.20<br>0.0080 | 155 (140 — 170)<br>510 (460 — 550) |
| P5  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.16<br>0.0065 | 0.20<br>0.0080 | 145 (130 — 160)<br>475 (430 — 520) |
| P6  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.16<br>0.0065 | 0.20<br>0.0080 | 165 (150 — 180)<br>540 (500 — 590) |
| P7  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.16<br>0.0065 | 0.20<br>0.0080 | 155 (140 — 170)<br>510 (460 — 550) |
| P8  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.17<br>0.0065 | 0.20<br>0.0080 | 145 (130 — 160)<br>475 (430 — 520) |
| P11 | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.16<br>0.0065 | 0.20<br>0.0080 | 150 (130 — 170)<br>490 (430 — 550) |
| P12 | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.11<br>0.0044 | 0.13<br>0.0050 | 100 (85 — 110)<br>330 (280 — 360)  |
| K1  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.18<br>0.0070 | 0.22<br>0.0085 | 195 (170 — 220)<br>640 (560 — 720) |
| K2  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.16<br>0.0065 | 0.20<br>0.0080 | 175 (160 — 200)<br>570 (530 — 650) |
| K3  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.16<br>0.0065 | 0.20<br>0.0080 | 150 (130 — 170)<br>490 (430 — 550) |
| K4  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.16<br>0.0065 | 0.20<br>0.0080 | 145 (130 — 160)<br>475 (430 — 520) |
| K5  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.15<br>0.0060 | 0.18<br>0.0070 | 85 (75 — 99)<br>280 (250 — 320)    |
| K6  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.16<br>0.0065 | 0.20<br>0.0080 | 125 (110 — 140)<br>410 (370 — 450) |
| K7  | E/M/A                                                                             | 0.376<br>0.376 | 1.0<br>1.0 | 0.15<br>0.0060 | 0.18<br>0.0070 | 110 (96 — 120)<br>360 (320 — 390)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

## Cutting data – JHP993 Slot milling PCEDC=3 and PCEDC=4

| SMG |  | $a_p$ /DC | $f_z$  |        |        |        |        |        |        |        |        |        | $v_c$           |                                 |
|-----|-----------------------------------------------------------------------------------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|---------------------------------|
|     |                                                                                   |           | 4      | 5      | 6      | 8      | 10     | 12     | 14     | 16     | 20     | 25     |                 |                                 |
| P1  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.16   | 0.20   | 200 (180 — 220) | Universal                       |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0065 | 0,0080 | 660 (600 — 720) |                                 |
| P2  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.16   | 0.20   | 195 (170 — 220) | Steel and cast iron             |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0065 | 0,0080 | 640 (560 — 720) |                                 |
| P3  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.16   | 0.20   | 165 (150 — 190) | Steel and cast iron             |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0065 | 0,0080 | 540 (500 — 620) |                                 |
| P4  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.16   | 0.20   | 145 (130 — 160) | Steel and cast iron             |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0065 | 0,0080 | 475 (430 — 520) |                                 |
| P5  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.16   | 0.19   | 140 (130 — 160) | Steel and cast iron             |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0065 | 0,0075 | 460 (430 — 520) |                                 |
| P6  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.16   | 0.19   | 155 (140 — 170) | Steel and cast iron             |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0065 | 0,0075 | 510 (460 — 550) |                                 |
| P7  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.16   | 0.19   | 150 (130 — 160) | Stainless steel and S-materials |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0065 | 0,0075 | 490 (430 — 520) |                                 |
| P8  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.16   | 0.20   | 140 (130 — 160) | Stainless steel and S-materials |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0065 | 0,0080 | 460 (430 — 520) |                                 |
| P11 | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.16   | 0.19   | 145 (130 — 160) | Stainless steel and S-materials |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0065 | 0,0075 | 475 (430 — 520) |                                 |
| P12 | E/M/A                                                                             | 1.5       | 0.028  | 0.034  | 0.040  | 0.055  | 0.070  | 0.080  | 0.090  | 0.10   | 0.12   | 0.13   | 90 (76 — 100)   | Non ferrous                     |
|     |                                                                                   | 1,5       | 0,0011 | 0,0013 | 0,0016 | 0,0022 | 0,0028 | 0,0032 | 0,0036 | 0,0040 | 0,0048 | 0,0050 | 295 (250 — 320) |                                 |
| K1  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.16   | 0.20   | 195 (170 — 220) | Non ferrous                     |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0065 | 0,0080 | 640 (560 — 720) |                                 |
| K2  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.16   | 0.19   | 170 (150 — 190) | Non ferrous                     |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0065 | 0,0075 | 560 (500 — 620) |                                 |
| K3  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.16   | 0.19   | 145 (130 — 160) | Non ferrous                     |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0065 | 0,0075 | 475 (430 — 520) |                                 |
| K4  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.16   | 0.19   | 135 (120 — 150) | Hard                            |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0065 | 0,0075 | 445 (400 — 490) |                                 |
| K5  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.15   | 0.17   | 80 (70 — 93)    | Hard                            |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0060 | 0,0065 | 260 (230 — 300) |                                 |
| K6  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.16   | 0.19   | 120 (110 — 130) | Hard                            |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0065 | 0,0075 | 395 (370 — 420) |                                 |
| K7  | E/M/A                                                                             | 1.5       | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.13   | 0.15   | 0.17   | 105 (90 — 110)  | Hard                            |
|     |                                                                                   | 1,5       | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0050 | 0,0060 | 0,0065 | 345 (300 — 360) |                                 |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JHP993 Slot milling PCEDC=5

| SMG |       | $a_p$ /DC    | $f_z$          |                | $v_c$                              |
|-----|-------|--------------|----------------|----------------|------------------------------------|
|     |       |              | 16             | 20             |                                    |
| P1  | E/M/A | 0.44<br>0.44 | 0.17<br>0.0065 | 0.20<br>0.0080 | 160 (140 — 180)<br>520 (460 — 590) |
| P2  | E/M/A | 0.44<br>0.44 | 0.17<br>0.0065 | 0.22<br>0.0085 | 155 (140 — 170)<br>510 (460 — 550) |
| P3  | E/M/A | 0.44<br>0.44 | 0.16<br>0.0065 | 0.20<br>0.0080 | 135 (120 — 150)<br>445 (400 — 490) |
| P4  | E/M/A | 0.44<br>0.44 | 0.16<br>0.0065 | 0.20<br>0.0080 | 120 (110 — 130)<br>395 (370 — 420) |
| P5  | E/M/A | 0.44<br>0.44 | 0.16<br>0.0065 | 0.19<br>0.0075 | 115 (99 — 130)<br>375 (330 — 420)  |
| P6  | E/M/A | 0.44<br>0.44 | 0.16<br>0.0065 | 0.19<br>0.0075 | 130 (120 — 140)<br>425 (400 — 450) |
| P7  | E/M/A | 0.44<br>0.44 | 0.16<br>0.0065 | 0.19<br>0.0075 | 120 (110 — 130)<br>395 (370 — 420) |
| P8  | E/M/A | 0.44<br>0.44 | 0.16<br>0.0065 | 0.20<br>0.0080 | 115 (99 — 130)<br>375 (330 — 420)  |
| P11 | E/M/A | 0.44<br>0.44 | 0.16<br>0.0065 | 0.19<br>0.0075 | 120 (110 — 130)<br>395 (370 — 420) |
| P12 | E/M/A | 0.44<br>0.44 | 0.11<br>0.0044 | 0.13<br>0.0050 | 80 (68 — 89)<br>260 (230 — 290)    |
| K1  | E/M/A | 0.44<br>0.44 | 0.17<br>0.0065 | 0.22<br>0.0085 | 160 (140 — 180)<br>520 (460 — 590) |
| K2  | E/M/A | 0.44<br>0.44 | 0.16<br>0.0065 | 0.19<br>0.0075 | 140 (120 — 150)<br>460 (400 — 490) |
| K3  | E/M/A | 0.44<br>0.44 | 0.16<br>0.0065 | 0.19<br>0.0075 | 120 (110 — 130)<br>395 (370 — 420) |
| K4  | E/M/A | 0.44<br>0.44 | 0.16<br>0.0065 | 0.19<br>0.0075 | 115 (97 — 120)<br>375 (320 — 390)  |
| K5  | E/M/A | 0.44<br>0.44 | 0.14<br>0.0055 | 0.17<br>0.0065 | 70 (60 — 79)<br>230 (200 — 250)    |
| K6  | E/M/A | 0.44<br>0.44 | 0.16<br>0.0065 | 0.19<br>0.0075 | 100 (86 — 110)<br>330 (290 — 360)  |
| K7  | E/M/A | 0.44<br>0.44 | 0.14<br>0.0055 | 0.17<br>0.0065 | 90 (77 — 100)<br>295 (260 — 320)   |

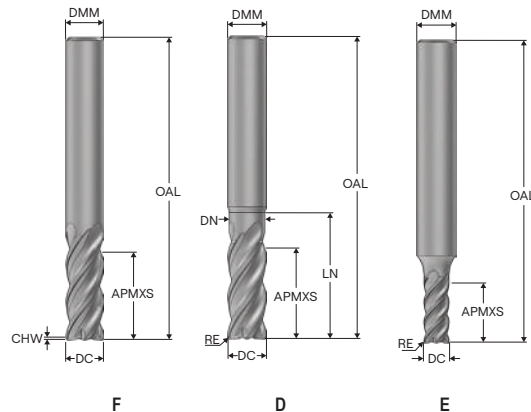
For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

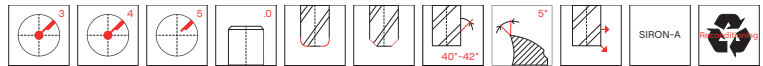


## JHP951

High performance – Square – Steel – 3-5 Flutes – Cylindrical – Corner radius or chamfer



- Tolerances:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Regrind possible if DC is ≥Ø6



| Designation              | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | LN   | DN   | CHW  | RE  | PCEDC | Shank       | Stock standard |
|--------------------------|-------------|--------------|------------|------|------|-------|------|------|------|------|-----|-------|-------------|----------------|
|                          |             |              |            | mm   | mm   | mm    | mm   | mm   | mm   | mm   | mm  |       |             |                |
| JHP951030F2C.0Z3-SIRA    | 02828192    | 2            | F          | 3,0  | 6,0  | 8,0   | 50,0 | —    | —    | 0,1  | —   | 3     | Cylindrical | ■              |
| JHP951030F2R020.0Z3-SIRA | 02828191    | 2            | F          | 3,0  | 6,0  | 8,0   | 50,0 | —    | —    | —    | 0,2 | 3     | Cylindrical | ■              |
| JHP951030F2R050.0Z3-SIRA | 02828190    | 2            | F          | 3,0  | 6,0  | 8,0   | 50,0 | —    | —    | —    | 0,5 | 3     | Cylindrical | ■              |
| JHP951040F2C.0Z4-SIRA    | 02828197    | 2            | F          | 4,0  | 6,0  | 10,0  | 55,0 | —    | —    | 0,15 | —   | 4     | Cylindrical | ■              |
| JHP951040F2R020.0Z4-SIRA | 02828194    | 2            | F          | 4,0  | 6,0  | 10,0  | 55,0 | —    | —    | —    | 0,2 | 4     | Cylindrical | ■              |
| JHP951040F2R050.0Z4-SIRA | 02828195    | 2            | F          | 4,0  | 6,0  | 10,0  | 55,0 | —    | —    | —    | 0,5 | 4     | Cylindrical | ■              |
| JHP951050F2C.0Z4-SIRA    | 02828201    | 2            | F          | 5,0  | 6,0  | 12,0  | 55,0 | —    | —    | 0,2  | —   | 4     | Cylindrical | ■              |
| JHP951050F2R020.0Z4-SIRA | 02828199    | 2            | F          | 5,0  | 6,0  | 12,0  | 55,0 | —    | —    | —    | 0,2 | 4     | Cylindrical | ■              |
| JHP951050F2R050.0Z4-SIRA | 02828198    | 2            | F          | 5,0  | 6,0  | 12,0  | 55,0 | —    | —    | —    | 0,5 | 4     | Cylindrical | ■              |
| JHP951060D2C.0Z4-SIRA    | 02828205    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0 | —    | —    | 0,2  | —   | 4     | Cylindrical | ■              |
| JHP951060D2R020.0Z4-SIRA | 02828203    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0 | —    | —    | —    | 0,2 | 4     | Cylindrical | ■              |
| JHP951060D2R050.0Z4-SIRA | 02828202    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0 | —    | —    | —    | 0,5 | 4     | Cylindrical | ■              |
| JHP951080D2C.0Z4-SIRA    | 02828212    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0 | —    | —    | 0,3  | —   | 4     | Cylindrical | ■              |
| JHP951080D2R020.0Z4-SIRA | 02828209    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0 | —    | —    | —    | 0,2 | 4     | Cylindrical | ■              |
| JHP951080D2R050.0Z4-SIRA | 02828207    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0 | —    | —    | —    | 0,5 | 4     | Cylindrical | ■              |
| JHP951080D2R100.0Z4-SIRA | 02828208    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0 | —    | —    | —    | 1,0 | 4     | Cylindrical | ■              |
| JHP951100E2C.0Z4-SIRA    | 02828218    | 2            | E          | 10,0 | 10,0 | 22,0  | 70,0 | 28,0 | 9,4  | 0,3  | —   | 4     | Cylindrical | ■              |
| JHP951100E2R050.0Z4-SIRA | 02828216    | 2            | E          | 10,0 | 10,0 | 22,0  | 70,0 | 28,0 | 9,4  | —    | 0,5 | 4     | Cylindrical | ■              |
| JHP951100E2R100.0Z4-SIRA | 02828214    | 2            | E          | 10,0 | 10,0 | 22,0  | 70,0 | 28,0 | 9,4  | —    | 1,0 | 4     | Cylindrical | ■              |
| JHP951120E2C.0Z4-SIRA    | 02828226    | 2            | E          | 12,0 | 12,0 | 26,0  | 80,0 | 33,0 | 11,4 | 0,4  | —   | 4     | Cylindrical | ■              |
| JHP951120E2R050.0Z4-SIRA | 02828224    | 2            | E          | 12,0 | 12,0 | 26,0  | 80,0 | 33,0 | 11,4 | —    | 0,5 | 4     | Cylindrical | ■              |
| JHP951120E2R100.0Z4-SIRA | 02828222    | 2            | E          | 12,0 | 12,0 | 26,0  | 80,0 | 33,0 | 11,4 | —    | 1,0 | 4     | Cylindrical | ■              |
| JHP951160E2C.0Z4-SIRA    | 02927873    | 2            | E          | 16,0 | 16,0 | 34,0  | 90,0 | 40,0 | 15,0 | 0,5  | —   | 4     | Cylindrical | ■              |
| JHP951160E2C.0Z5-SIRA    | 02828232    | 2            | E          | 16,0 | 16,0 | 34,0  | 90,0 | 40,0 | 15,4 | 0,5  | —   | 5     | Cylindrical | ■              |
| JHP951160E2R050.0Z4-SIRA | 02927875    | 2            | E          | 16,0 | 16,0 | 34,0  | 90,0 | 40,0 | 15,0 | —    | 0,5 | 4     | Cylindrical | ■              |
| JHP951160E2R050.0Z5-SIRA | 02828230    | 2            | E          | 16,0 | 16,0 | 34,0  | 90,0 | 40,0 | 15,4 | —    | 0,5 | 5     | Cylindrical | ■              |
| JHP951160E2R100.0Z4-SIRA | 02927876    | 2            | E          | 16,0 | 16,0 | 34,0  | 90,0 | 40,0 | 15,0 | —    | 1,0 | 4     | Cylindrical | ■              |
| JHP951160E2R100.0Z5-SIRA | 02828231    | 2            | E          | 16,0 | 16,0 | 34,0  | 90,0 | 40,0 | 15,4 | —    | 1,0 | 5     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

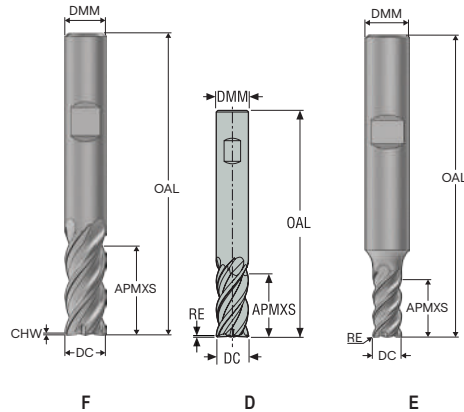
Graphite

X-Heads

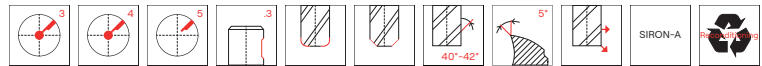
Minimaster

## JHP951

High performance – Square – Steel – 3-5 Flutes – Weldon – Corner radius or chamfer



- Tolerances:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Regrind possible if DC is ≥Ø6



| Designation              | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW  | RE  | PCEDC | Shank  | Stock standard |
|--------------------------|-------------|--------------|------------|------|------|-------|-------|------|------|------|-----|-------|--------|----------------|
| JHP951030F2C.3Z3-SIRA    | 02828193    | 2            | F          | 3,0  | 6,0  | 8,0   | 50,0  | —    | —    | 0,1  | —   | 3     | Weldon | ■              |
| JHP951030F2R020.3Z3-SIRA | 02828260    | 2            | F          | 3,0  | 6,0  | 8,0   | 50,0  | —    | —    | —    | 0,2 | 3     | Weldon | ■              |
| JHP951030F2R050.3Z3-SIRA | 02828259    | 2            | F          | 3,0  | 6,0  | 8,0   | 50,0  | —    | —    | —    | 0,5 | 3     | Weldon | □              |
| JHP951040F2C.3Z4-SIRA    | 02828196    | 2            | F          | 4,0  | 6,0  | 10,0  | 55,0  | —    | —    | 0,15 | —   | 4     | Weldon | ■              |
| JHP951040F2R020.3Z4-SIRA | 02828261    | 2            | F          | 4,0  | 6,0  | 10,0  | 55,0  | —    | —    | —    | 0,2 | 4     | Weldon | □              |
| JHP951040F2R050.3Z4-SIRA | 02828262    | 2            | F          | 4,0  | 6,0  | 10,0  | 55,0  | —    | —    | —    | 0,5 | 4     | Weldon | □              |
| JHP951050F2C.3Z4-SIRA    | 02828200    | 2            | F          | 5,0  | 6,0  | 12,0  | 55,0  | —    | —    | 0,2  | —   | 4     | Weldon | ■              |
| JHP951050F2R020.3Z4-SIRA | 02828264    | 2            | F          | 5,0  | 6,0  | 12,0  | 55,0  | —    | —    | —    | 0,2 | 4     | Weldon | □              |
| JHP951050F2R050.3Z4-SIRA | 02828263    | 2            | F          | 5,0  | 6,0  | 12,0  | 55,0  | —    | —    | —    | 0,5 | 4     | Weldon | □              |
| JHP951060D2C.3Z4-SIRA    | 02828206    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0  | —    | —    | 0,2  | —   | 4     | Weldon | ■              |
| JHP951060D2R020.3Z4-SIRA | 02828266    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0  | —    | —    | —    | 0,2 | 4     | Weldon | □              |
| JHP951060D2R050.3Z4-SIRA | 02828265    | 2            | D          | 6,0  | 6,0  | 14,0  | 55,0  | —    | —    | —    | 0,5 | 4     | Weldon | □              |
| JHP951080D2C.3Z4-SIRA    | 02828210    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0  | —    | —    | 0,3  | —   | 4     | Weldon | ■              |
| JHP951080D2R020.3Z4-SIRA | 02828269    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0  | —    | —    | —    | 0,2 | 4     | Weldon | □              |
| JHP951080D2R050.3Z4-SIRA | 02828267    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0  | —    | —    | —    | 0,5 | 4     | Weldon | ■              |
| JHP951080D2R100.3Z4-SIRA | 02828268    | 2            | D          | 8,0  | 8,0  | 18,0  | 60,0  | —    | —    | —    | 1,0 | 4     | Weldon | □              |
| JHP951100E2C.3Z4-SIRA    | 02828220    | 2            | E          | 10,0 | 10,0 | 22,0  | 70,0  | 28,0 | 9,4  | 0,3  | —   | 4     | Weldon | ■              |
| JHP951100E2R050.3Z4-SIRA | 02828271    | 2            | E          | 10,0 | 10,0 | 22,0  | 70,0  | 28,0 | 9,4  | —    | 0,5 | 4     | Weldon | ■              |
| JHP951100E2R100.3Z4-SIRA | 02828270    | 2            | E          | 10,0 | 10,0 | 22,0  | 70,0  | 28,0 | 9,4  | —    | 1,0 | 4     | Weldon | □              |
| JHP951120E2C.3Z4-SIRA    | 02828228    | 2            | E          | 12,0 | 12,0 | 26,0  | 80,0  | 33,0 | 11,4 | 0,4  | —   | 4     | Weldon | ■              |
| JHP951120E2R050.3Z4-SIRA | 02828273    | 2            | E          | 12,0 | 12,0 | 26,0  | 80,0  | 33,0 | 11,4 | —    | 0,5 | 4     | Weldon | ■              |
| JHP951120E2R100.3Z4-SIRA | 02828272    | 2            | E          | 12,0 | 12,0 | 26,0  | 80,0  | 33,0 | 11,4 | —    | 1,0 | 4     | Weldon | ■              |
| JHP951160E2C.3Z4-SIRA    | 02927874    | 2            | E          | 16,0 | 16,0 | 34,0  | 90,0  | 40,0 | 15,0 | 0,5  | —   | 4     | Weldon | ■              |
| JHP951160E2C.3Z5-SIRA    | 02828233    | 2            | E          | 16,0 | 16,0 | 34,0  | 90,0  | 40,0 | 15,4 | 0,5  | —   | 5     | Weldon | ■              |
| JHP951160E2R050.3Z4-SIRA | 02927879    | 2            | E          | 16,0 | 16,0 | 34,0  | 90,0  | 40,0 | 15,0 | —    | 0,5 | 4     | Weldon | ■              |
| JHP951160E2R050.3Z5-SIRA | 02828275    | 2            | E          | 16,0 | 16,0 | 34,0  | 90,0  | 40,0 | 15,4 | —    | 0,5 | 5     | Weldon | □              |
| JHP951160E2R100.3Z4-SIRA | 02927880    | 2            | E          | 16,0 | 16,0 | 34,0  | 90,0  | 40,0 | 15,0 | —    | 1,0 | 4     | Weldon | □              |
| JHP951160E2R100.3Z5-SIRA | 02828276    | 2            | E          | 16,0 | 16,0 | 34,0  | 90,0  | 40,0 | 15,4 | —    | 1,0 | 5     | Weldon | □              |
| JHP951200E2R050.3Z4-SIRA | 02927877    | 2            | E          | 20,0 | 20,0 | 42,0  | 100,0 | 48,0 | 19,0 | —    | 0,5 | 4     | Weldon | ■              |
| JHP951200E2R050.3Z5-SIRA | 02828235    | 2            | E          | 20,0 | 20,0 | 42,0  | 100,0 | 48,0 | 19,4 | —    | 0,5 | 5     | Weldon | ■              |
| JHP951200E2R100.3Z4-SIRA | 02927878    | 2            | E          | 20,0 | 20,0 | 42,0  | 100,0 | 48,0 | 19,0 | —    | 1,0 | 4     | Weldon | ■              |
| JHP951200E2R100.3Z5-SIRA | 02828234    | 2            | E          | 20,0 | 20,0 | 42,0  | 100,0 | 48,0 | 19,4 | —    | 1,0 | 5     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

## Cutting data – JHP951 Side milling

| SMG |  | $a_e/DC$ | $a_p/DC$ | $f_z$   |        |        |        |        |        |        |        |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|----------|---------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|
|     |                                                                                   |          |          | 3       | 4      | 5      | 6      | 8      | 10     | 12     | 16     | 20     |                 |
| P1  | E/M/A                                                                             | 0.400    | 1.7      | 0.034   | 0.044  | 0.055  | 0.065  | 0.090  | 0.11   | 0.13   | 0.16   | 0.19   | 230 (200 — 260) |
|     |                                                                                   | 0,400    | 1,7      | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0036 | 0,0044 | 0,0050 | 0,0065 | 0,0075 | 750 (660 — 850) |
| P2  | E/M/A                                                                             | 0.400    | 1.7      | 0.034   | 0.044  | 0.055  | 0.065  | 0.090  | 0.11   | 0.13   | 0.17   | 0.19   | 220 (200 — 250) |
|     |                                                                                   | 0,400    | 1,7      | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0036 | 0,0044 | 0,0050 | 0,0065 | 0,0075 | 720 (660 — 820) |
| P3  | E/M/A                                                                             | 0.400    | 1.7      | 0.032   | 0.042  | 0.055  | 0.065  | 0.085  | 0.11   | 0.13   | 0.16   | 0.18   | 190 (170 — 210) |
|     |                                                                                   | 0,400    | 1,7      | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0034 | 0,0044 | 0,0050 | 0,0065 | 0,0070 | 620 (560 — 680) |
| P4  | E/M/A                                                                             | 0.400    | 1.7      | 0.032   | 0.042  | 0.050  | 0.060  | 0.085  | 0.10   | 0.12   | 0.15   | 0.18   | 170 (150 — 190) |
|     |                                                                                   | 0,400    | 1,7      | 0,0013  | 0,0017 | 0,0020 | 0,0024 | 0,0034 | 0,0040 | 0,0048 | 0,0060 | 0,0070 | 560 (500 — 620) |
| P5  | E/M/A                                                                             | 0.400    | 1.7      | 0.030   | 0.040  | 0.050  | 0.060  | 0.080  | 0.10   | 0.12   | 0.15   | 0.17   | 165 (150 — 180) |
|     |                                                                                   | 0,400    | 1,7      | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 0,0032 | 0,0040 | 0,0048 | 0,0060 | 0,0065 | 540 (500 — 590) |
| P6  | E/M/A                                                                             | 0.400    | 1.7      | 0.030   | 0.040  | 0.050  | 0.060  | 0.080  | 0.10   | 0.12   | 0.15   | 0.17   | 185 (160 — 210) |
|     |                                                                                   | 0,400    | 1,7      | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 0,0032 | 0,0040 | 0,0048 | 0,0060 | 0,0065 | 610 (530 — 680) |
| P7  | E/M/A                                                                             | 0.400    | 1.7      | 0.030   | 0.040  | 0.050  | 0.060  | 0.080  | 0.10   | 0.12   | 0.15   | 0.17   | 175 (150 — 190) |
|     |                                                                                   | 0,400    | 1,7      | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 0,0032 | 0,0040 | 0,0048 | 0,0060 | 0,0065 | 570 (500 — 620) |
| P8  | E/M/A                                                                             | 0.400    | 1.7      | 0.032   | 0.042  | 0.055  | 0.065  | 0.085  | 0.11   | 0.13   | 0.16   | 0.18   | 160 (140 — 180) |
|     |                                                                                   | 0,400    | 1,7      | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0034 | 0,0044 | 0,0050 | 0,0065 | 0,0070 | 520 (460 — 590) |
| P11 | E/M/A                                                                             | 0.400    | 1.7      | 0.030   | 0.040  | 0.050  | 0.060  | 0.080  | 0.10   | 0.12   | 0.15   | 0.17   | 170 (150 — 190) |
|     |                                                                                   | 0,400    | 1,7      | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 0,0032 | 0,0040 | 0,0048 | 0,0060 | 0,0065 | 560 (500 — 620) |
| P12 | E/M/A                                                                             | 0.400    | 1.7      | 0.020   | 0.028  | 0.034  | 0.042  | 0.055  | 0.070  | 0.080  | 0.10   | 0.12   | 110 (94 — 120)  |
|     |                                                                                   | 0,400    | 1,7      | 0,00080 | 0,0011 | 0,0013 | 0,0017 | 0,0022 | 0,0028 | 0,0032 | 0,0040 | 0,0048 | 360 (310 — 390) |
| K1  | E/M/A                                                                             | 0.400    | 1.7      | 0.034   | 0.044  | 0.055  | 0.065  | 0.090  | 0.11   | 0.13   | 0.17   | 0.19   | 225 (200 — 250) |
|     |                                                                                   | 0,400    | 1,7      | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0036 | 0,0044 | 0,0050 | 0,0065 | 0,0075 | 740 (660 — 820) |
| K2  | E/M/A                                                                             | 0.400    | 1.7      | 0.030   | 0.040  | 0.050  | 0.060  | 0.080  | 0.10   | 0.12   | 0.15   | 0.17   | 200 (180 — 220) |
|     |                                                                                   | 0,400    | 1,7      | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 0,0032 | 0,0040 | 0,0048 | 0,0060 | 0,0065 | 660 (600 — 720) |
| K3  | E/M/A                                                                             | 0.400    | 1.7      | 0.030   | 0.040  | 0.050  | 0.060  | 0.080  | 0.10   | 0.12   | 0.15   | 0.17   | 170 (150 — 190) |
|     |                                                                                   | 0,400    | 1,7      | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 0,0032 | 0,0040 | 0,0048 | 0,0060 | 0,0065 | 560 (500 — 620) |
| K4  | E/M/A                                                                             | 0.400    | 1.7      | 0.030   | 0.040  | 0.050  | 0.060  | 0.080  | 0.10   | 0.12   | 0.15   | 0.17   | 160 (140 — 180) |
|     |                                                                                   | 0,400    | 1,7      | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 0,0032 | 0,0040 | 0,0048 | 0,0060 | 0,0065 | 520 (460 — 590) |
| K5  | E/M/A                                                                             | 0.400    | 1.7      | 0.028   | 0.036  | 0.046  | 0.055  | 0.075  | 0.090  | 0.11   | 0.14   | 0.16   | 100 (85 — 110)  |
|     |                                                                                   | 0,400    | 1,7      | 0,0011  | 0,0014 | 0,0018 | 0,0022 | 0,0030 | 0,0036 | 0,0044 | 0,0055 | 0,0065 | 330 (280 — 360) |
| K6  | E/M/A                                                                             | 0.400    | 1.7      | 0.030   | 0.040  | 0.050  | 0.060  | 0.080  | 0.10   | 0.12   | 0.15   | 0.17   | 140 (130 — 160) |
|     |                                                                                   | 0,400    | 1,7      | 0,0012  | 0,0016 | 0,0020 | 0,0024 | 0,0032 | 0,0040 | 0,0048 | 0,0060 | 0,0065 | 460 (430 — 520) |
| K7  | E/M/A                                                                             | 0.400    | 1.7      | 0.028   | 0.036  | 0.046  | 0.055  | 0.075  | 0.090  | 0.11   | 0.14   | 0.16   | 125 (110 — 140) |
|     |                                                                                   | 0,400    | 1,7      | 0,0011  | 0,0014 | 0,0018 | 0,0022 | 0,0030 | 0,0036 | 0,0044 | 0,0055 | 0,0065 | 410 (370 — 450) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JHP951 Slot milling

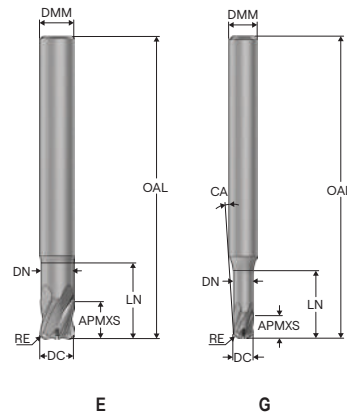
| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |        |        |        |        |        |        |        |        | v <sub>c</sub>  |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|
|     |                                                                                   |                    | 3              | 4      | 5      | 6      | 8      | 10     | 12     | 16     | 20     |                 |
| P1  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.16   | 195 (170 — 220) |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 640 (560 — 720) |
| P2  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.16   | 190 (170 — 210) |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 620 (560 — 680) |
| P3  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.16   | 165 (150 — 180) |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 540 (500 — 590) |
| P4  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.16   | 145 (130 — 160) |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 475 (430 — 520) |
| P5  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.16   | 140 (120 — 150) |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 460 (400 — 490) |
| P6  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.16   | 155 (140 — 170) |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 510 (460 — 550) |
| P7  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.16   | 145 (130 — 160) |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 475 (430 — 520) |
| P8  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.16   | 140 (120 — 150) |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 460 (400 — 490) |
| P11 | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.16   | 145 (130 — 160) |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 475 (430 — 520) |
| P12 | E/M/A                                                                             | 1.5                | 0.020          | 0.028  | 0.034  | 0.040  | 0.055  | 0.070  | 0.080  | 0.10   | 0.12   | 85 (75 — 99)    |
|     |                                                                                   | 1.5                | 0,00080        | 0,0011 | 0,0013 | 0,0016 | 0,0022 | 0,0028 | 0,0032 | 0,0040 | 0,0048 | 280 (250 — 320) |
| K1  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.16   | 195 (170 — 220) |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 640 (560 — 720) |
| K2  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.16   | 170 (150 — 190) |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 560 (500 — 620) |
| K3  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.16   | 140 (130 — 160) |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 460 (430 — 520) |
| K4  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.16   | 135 (120 — 150) |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 445 (400 — 490) |
| K5  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.15   | 80 (70 — 92)    |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0060 | 260 (230 — 300) |
| K6  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.16   | 120 (110 — 130) |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0065 | 395 (370 — 420) |
| K7  | E/M/A                                                                             | 1.5                | 0.024          | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.13   | 0.15   | 105 (89 — 110)  |
|     |                                                                                   | 1.5                | 0,00095        | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0050 | 0,0060 | 345 (300 — 360) |

For cutting data recalculations, see pages 699 – 707

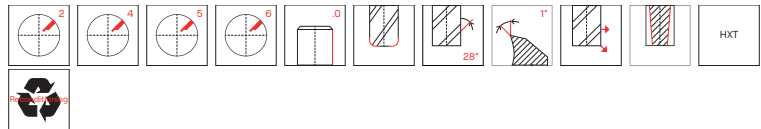
SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
v<sub>c</sub> = m/min (sf/min)  
f<sub>z</sub> = mm (in/tooth)  
a<sub>p</sub> = mm/DC (in/DC) = factor  
a<sub>e</sub> = mm/DC (in/DC) = factor  
All cutting data are target values

## JH142

High speed – High precision – Torical – Hardened steel – 2-6 Flutes – Cylindrical – Corner radius



- Tolerances:
- Run-out= <0,005 mm
- DMM= h5
- DC= 0-0,01 mm
- RE= ±0,005 mm
- Regrind possible if DC is ≥Ø6



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | LN   | DN   | RE  | CA°  | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|------|------|------|-----|------|-------|-------------|----------------|
|                        |             |              |            | mm   | mm   | mm    | mm   | mm   | mm   | mm  |      |       |             |                |
| JH142020G2R030.0Z2-HXT | 02968223    | 2            | G          | 2,0  | 4,0  | 2,0   | 40,0 | 6,0  | 1,9  | 0,3 | 6,64 | 2     | Cylindrical | ■              |
| JH142020G2R030.0Z4-HXT | 02968224    | 2            | G          | 2,0  | 4,0  | 2,0   | 40,0 | 6,0  | 1,9  | 0,3 | 6,64 | 4     | Cylindrical | ■              |
| JH142020G2R050.0Z2-HXT | 02968225    | 2            | G          | 2,0  | 4,0  | 2,0   | 40,0 | 6,0  | 1,9  | 0,5 | 6,79 | 2     | Cylindrical | ■              |
| JH142020G2R050.0Z4-HXT | 02968226    | 2            | G          | 2,0  | 4,0  | 2,0   | 40,0 | 6,0  | 1,9  | 0,5 | 6,79 | 4     | Cylindrical | ■              |
| JH142030G2R050.0Z2-HXT | 02968227    | 2            | G          | 3,0  | 4,0  | 3,0   | 40,0 | 8,0  | 2,8  | 0,5 | 2,95 | 2     | Cylindrical | ■              |
| JH142030G2R050.0Z4-HXT | 02968228    | 2            | G          | 3,0  | 4,0  | 3,0   | 40,0 | 8,0  | 2,8  | 0,5 | 2,95 | 4     | Cylindrical | ■              |
| JH142030G2R100.0Z2-HXT | 02968229    | 2            | G          | 3,0  | 4,0  | 3,0   | 40,0 | 8,0  | 2,8  | 1,0 | 3,1  | 2     | Cylindrical | ■              |
| JH142030G2R100.0Z4-HXT | 02968230    | 2            | G          | 3,0  | 4,0  | 3,0   | 40,0 | 8,0  | 2,8  | 1,0 | 3,1  | 4     | Cylindrical | ■              |
| JH142040G2R030.0Z2-HXT | 02968231    | 2            | G          | 4,0  | 6,0  | 4,0   | 50,0 | 8,0  | 3,7  | 0,3 | 5,34 | 2     | Cylindrical | ■              |
| JH142040G2R030.0Z4-HXT | 02970110    | 2            | G          | 4,0  | 6,0  | 4,0   | 50,0 | 8,0  | 3,7  | 0,3 | 5,34 | 4     | Cylindrical | ■              |
| JH142040G2R050.0Z4-HXT | 02968232    | 2            | G          | 4,0  | 6,0  | 4,0   | 50,0 | 8,0  | 3,7  | 0,5 | 5,44 | 4     | Cylindrical | ■              |
| JH142040G2R100.0Z4-HXT | 02968233    | 2            | G          | 4,0  | 6,0  | 4,0   | 50,0 | 8,0  | 3,7  | 1,0 | 5,69 | 4     | Cylindrical | ■              |
| JH142060E2R050.0Z4-HXT | 02968235    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0 | 12,0 | 5,6  | 0,5 | —    | 4     | Cylindrical | ■              |
| JH142060E2R100.0Z4-HXT | 02968237    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0 | 12,0 | 5,6  | 1,0 | —    | 4     | Cylindrical | ■              |
| JH142060E2R100.0Z5-HXT | 02968238    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0 | 12,0 | 5,6  | 1,0 | —    | 5     | Cylindrical | ■              |
| JH142060E2R150.0Z5-HXT | 02968240    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0 | 12,0 | 5,6  | 1,5 | —    | 5     | Cylindrical | ■              |
| JH142060E2R200.0Z5-HXT | 02968241    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0 | 12,0 | 5,6  | 2,0 | —    | 5     | Cylindrical | ■              |
| JH142080E2R050.0Z5-HXT | 02968242    | 2            | E          | 8,0  | 8,0  | 8,0   | 60,0 | 16,0 | 7,4  | 0,5 | —    | 5     | Cylindrical | ■              |
| JH142080E2R100.0Z5-HXT | 02968243    | 2            | E          | 8,0  | 8,0  | 8,0   | 60,0 | 16,0 | 7,4  | 1,0 | —    | 5     | Cylindrical | ■              |
| JH142080E2R150.0Z5-HXT | 02968244    | 2            | E          | 8,0  | 8,0  | 8,0   | 60,0 | 16,0 | 7,4  | 1,5 | —    | 5     | Cylindrical | ■              |
| JH142080E2R200.0Z5-HXT | 02968245    | 2            | E          | 8,0  | 8,0  | 8,0   | 60,0 | 16,0 | 7,4  | 2,0 | —    | 5     | Cylindrical | ■              |
| JH142080E2R300.0Z5-HXT | 02968246    | 2            | E          | 8,0  | 8,0  | 8,0   | 60,0 | 16,0 | 7,4  | 3,0 | —    | 5     | Cylindrical | ■              |
| JH142100E2R050.0Z5-HXT | 02968247    | 2            | E          | 10,0 | 10,0 | 10,0  | 70,0 | 20,0 | 9,4  | 0,5 | —    | 5     | Cylindrical | ■              |
| JH142100E2R100.0Z5-HXT | 02968248    | 2            | E          | 10,0 | 10,0 | 10,0  | 70,0 | 20,0 | 9,4  | 1,0 | —    | 5     | Cylindrical | ■              |
| JH142100E2R200.0Z5-HXT | 02968249    | 2            | E          | 10,0 | 10,0 | 10,0  | 70,0 | 20,0 | 9,4  | 2,0 | —    | 5     | Cylindrical | ■              |
| JH142100E2R250.0Z5-HXT | 02968250    | 2            | E          | 10,0 | 10,0 | 10,0  | 70,0 | 20,0 | 9,4  | 2,5 | —    | 5     | Cylindrical | ■              |
| JH142120E2R100.0Z6-HXT | 02968251    | 2            | E          | 12,0 | 12,0 | 12,0  | 75,0 | 24,0 | 11,4 | 1,0 | —    | 6     | Cylindrical | ■              |
| JH142120E2R200.0Z6-HXT | 02968252    | 2            | E          | 12,0 | 12,0 | 12,0  | 75,0 | 24,0 | 11,4 | 2,0 | —    | 6     | Cylindrical | ■              |
| JH142120E2R300.0Z6-HXT | 02968253    | 2            | E          | 12,0 | 12,0 | 12,0  | 75,0 | 24,0 | 11,4 | 3,0 | —    | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfzp

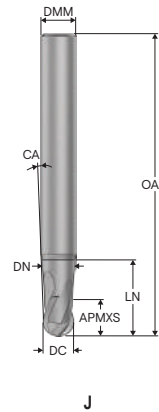
Graphite

X-Heads

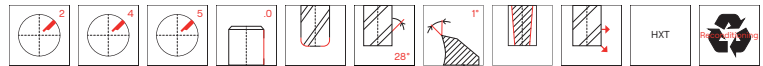
Minimaster

#### JH142

High speed – High precision – Torical – Hardened steel – 2-5 Flutes – Cylindrical – Corner radius



- Tolerances:  
 —Run-out= <0,005 mm  
 —DMM= h5  
 —DC= 0-0,01 mm  
 —RE= ±0,005 mm  
 —Regrind possible if DC is ≥Ø6



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN  | RE  | CA°  | NA° | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|-------|------|-----|-----|------|-----|-------|-------------|----------------|
|                        |             |              |            | mm   | mm   | mm    | mm    | mm   | mm  | mm  |      |     |       |             |                |
| JH142020J3R030.0Z2-HXT | 02968255    | 3            | J          | 2,0  | 6,0  | 2,0   | 60,0  | 10,0 | 1,9 | 0,3 | 6,72 | 0,9 | 2     | Cylindrical | ■              |
| JH142020J3R030.0Z4-HXT | 02968256    | 3            | J          | 2,0  | 6,0  | 2,0   | 60,0  | 10,0 | 1,9 | 0,3 | 6,72 | 0,9 | 4     | Cylindrical | ■              |
| JH142020J3R050.0Z2-HXT | 02968257    | 3            | J          | 2,0  | 6,0  | 2,0   | 60,0  | 10,0 | 1,9 | 0,5 | 6,79 | 0,9 | 2     | Cylindrical | ■              |
| JH142020J3R050.0Z4-HXT | 02968258    | 3            | J          | 2,0  | 6,0  | 2,0   | 60,0  | 10,0 | 1,9 | 0,5 | 6,79 | 0,9 | 4     | Cylindrical | ■              |
| JH142030J3R050.0Z2-HXT | 02968259    | 3            | J          | 3,0  | 6,0  | 3,0   | 60,0  | 15,0 | 2,8 | 0,5 | 4,3  | 0,9 | 2     | Cylindrical | ■              |
| JH142030J3R050.0Z4-HXT | 02968260    | 3            | J          | 3,0  | 6,0  | 3,0   | 60,0  | 15,0 | 2,8 | 0,5 | 4,3  | 0,9 | 4     | Cylindrical | ■              |
| JH142030J3R100.0Z2-HXT | 02968261    | 3            | J          | 3,0  | 6,0  | 3,0   | 60,0  | 15,0 | 2,8 | 1,0 | 4,4  | 0,9 | 2     | Cylindrical | ■              |
| JH142030J3R100.0Z4-HXT | 02968262    | 3            | J          | 3,0  | 6,0  | 3,0   | 60,0  | 15,0 | 2,8 | 1,0 | 4,4  | 0,9 | 4     | Cylindrical | ■              |
| JH142040J3R030.0Z2-HXT | 02968263    | 3            | J          | 4,0  | 6,0  | 4,0   | 60,0  | 20,0 | 3,7 | 0,3 | 2,45 | 0,9 | 2     | Cylindrical | ■              |
| JH142040J3R030.0Z4-HXT | 02970111    | 3            | J          | 4,0  | 6,0  | 4,0   | 60,0  | 20,0 | 3,7 | 0,3 | 2,45 | 0,9 | 4     | Cylindrical | ■              |
| JH142040J3R050.0Z2-HXT | 02968265    | 3            | J          | 4,0  | 6,0  | 4,0   | 60,0  | 20,0 | 3,7 | 0,5 | 2,48 | 0,9 | 2     | Cylindrical | ■              |
| JH142040J3R050.0Z4-HXT | 02968264    | 3            | J          | 4,0  | 6,0  | 4,0   | 60,0  | 20,0 | 3,7 | 0,5 | 2,48 | 0,9 | 4     | Cylindrical | ■              |
| JH142040J3R100.0Z2-HXT | 02968266    | 3            | J          | 4,0  | 6,0  | 4,0   | 60,0  | 20,0 | 3,7 | 1,0 | 2,53 | 0,9 | 2     | Cylindrical | ■              |
| JH142040J3R100.0Z4-HXT | 02968267    | 3            | J          | 4,0  | 6,0  | 4,0   | 60,0  | 20,0 | 3,7 | 1,0 | 2,53 | 0,9 | 4     | Cylindrical | ■              |
| JH142060J3R050.0Z4-HXT | 02968268    | 3            | J          | 6,0  | 8,0  | 6,0   | 75,0  | 30,0 | 5,6 | 0,5 | 1,75 | 0,9 | 4     | Cylindrical | ■              |
| JH142060J3R050.0Z5-HXT | 02968269    | 3            | J          | 6,0  | 8,0  | 6,0   | 75,0  | 30,0 | 5,6 | 0,5 | 1,75 | 0,9 | 5     | Cylindrical | ■              |
| JH142060J3R100.0Z4-HXT | 02968270    | 3            | J          | 6,0  | 8,0  | 6,0   | 75,0  | 30,0 | 5,6 | 1,0 | 1,77 | 0,9 | 4     | Cylindrical | ■              |
| JH142060J3R100.0Z5-HXT | 02968271    | 3            | J          | 6,0  | 8,0  | 6,0   | 75,0  | 30,0 | 5,6 | 1,0 | 1,77 | 0,9 | 5     | Cylindrical | ■              |
| JH142060J3R150.0Z5-HXT | 02968272    | 3            | J          | 6,0  | 8,0  | 6,0   | 75,0  | 30,0 | 5,6 | 1,5 | 1,8  | 0,9 | 5     | Cylindrical | ■              |
| JH142060J3R200.0Z5-HXT | 02968273    | 3            | J          | 6,0  | 8,0  | 6,0   | 75,0  | 30,0 | 5,6 | 2,0 | 1,83 | 0,9 | 5     | Cylindrical | ■              |
| JH142080J3R050.0Z5-HXT | 02968274    | 3            | J          | 8,0  | 10,0 | 8,0   | 85,0  | 40,0 | 7,4 | 0,5 | 1,34 | 0,9 | 5     | Cylindrical | ■              |
| JH142080J3R100.0Z5-HXT | 02968275    | 3            | J          | 8,0  | 10,0 | 8,0   | 85,0  | 40,0 | 7,4 | 1,0 | 1,36 | 0,9 | 5     | Cylindrical | ■              |
| JH142080J3R150.0Z5-HXT | 02968276    | 3            | J          | 8,0  | 10,0 | 8,0   | 85,0  | 40,0 | 7,4 | 1,5 | 1,37 | 0,9 | 5     | Cylindrical | ■              |
| JH142080J3R200.0Z5-HXT | 02968277    | 3            | J          | 8,0  | 10,0 | 8,0   | 85,0  | 40,0 | 7,4 | 2,0 | 1,39 | 0,9 | 5     | Cylindrical | ■              |
| JH142100J3R050.0Z5-HXT | 02968278    | 3            | J          | 10,0 | 12,0 | 10,0  | 100,0 | 50,0 | 9,4 | 0,5 | 1,1  | 0,9 | 5     | Cylindrical | ■              |
| JH142100J3R100.0Z5-HXT | 02968279    | 3            | J          | 10,0 | 12,0 | 10,0  | 100,0 | 50,0 | 9,4 | 1,0 | 1,11 | 0,9 | 5     | Cylindrical | ■              |
| JH142100J3R200.0Z5-HXT | 02968280    | 3            | J          | 10,0 | 12,0 | 10,0  | 100,0 | 50,0 | 9,4 | 2,0 | 1,13 | 0,9 | 5     | Cylindrical | ■              |
| JH142020J6R030.0Z4-HXT | 02968282    | 6            | J          | 2,0  | 6,0  | 2,0   | 75,0  | 20,0 | 1,9 | 0,3 | 4,33 | 0,9 | 4     | Cylindrical | ■              |
| JH142020J6R050.0Z4-HXT | 02968283    | 6            | J          | 2,0  | 6,0  | 2,0   | 75,0  | 20,0 | 1,9 | 0,5 | 4,36 | 0,9 | 4     | Cylindrical | ■              |
| JH142030J6R050.0Z4-HXT | 02968284    | 6            | J          | 3,0  | 6,0  | 3,0   | 75,0  | 30,0 | 2,8 | 0,5 | 2,52 | 0,9 | 4     | Cylindrical | ■              |
| JH142030J6R100.0Z4-HXT | 02968285    | 6            | J          | 3,0  | 6,0  | 3,0   | 75,0  | 30,0 | 2,8 | 1,0 | 2,56 | 0,9 | 4     | Cylindrical | ■              |
| JH142040J6R030.0Z4-HXT | 02968286    | 6            | J          | 4,0  | 6,0  | 4,0   | 80,0  | 40,0 | 3,7 | 0,3 | 1,36 | 0,9 | 4     | Cylindrical | ■              |
| JH142040J6R050.0Z4-HXT | 02968287    | 6            | J          | 4,0  | 6,0  | 4,0   | 80,0  | 40,0 | 3,7 | 0,5 | 1,37 | 0,9 | 4     | Cylindrical | ■              |
| JH142040J6R100.0Z4-HXT | 02968288    | 6            | J          | 4,0  | 6,0  | 4,0   | 80,0  | 40,0 | 3,7 | 1,0 | 1,38 | 0,9 | 4     | Cylindrical | ■              |

■ Stocked standard.

## Cutting data – JH142 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$       | $f_z$             |                  |                  |                 |                 |                 |                 |                 | $v_c$                                 |                                 |
|-----|-----------------------------------------------------------------------------------|------------------|----------------|-------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                  |                | 2                 | 3                | 4                | 6               | 8               | 10              | 12              | 16              |                                       |                                 |
| P1  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.020<br>0,00080  | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.14<br>0,0055  | 485 (460 — 530)<br>1600 (1600 — 1700) | Universal                       |
| P2  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.020<br>0,00080  | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 470 (450 — 520)<br>1550 (1500 — 1700) | Steel and cast iron             |
| P3  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.019<br>0,00075  | 0.028<br>0,0011  | 0.038<br>0,0015  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.14<br>0,0055  | 405 (390 — 450)<br>1325 (1300 — 1400) | Steel and cast iron             |
| P4  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.019<br>0,00075  | 0.028<br>0,0011  | 0.038<br>0,0015  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.14<br>0,0055  | 360 (340 — 390)<br>1175 (1200 — 1200) | Steel and cast iron             |
| P5  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.018<br>0,00070  | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 345 (330 — 380)<br>1125 (1100 — 1200) | Steel and cast iron             |
| P6  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.018<br>0,00070  | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 385 (370 — 420)<br>1275 (1300 — 1300) | Stainless steel and S-materials |
| P7  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.018<br>0,00070  | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 365 (350 — 400)<br>1200 (1200 — 1300) | Stainless steel and S-materials |
| P8  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.019<br>0,00075  | 0.028<br>0,0011  | 0.038<br>0,0015  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.14<br>0,0055  | 340 (330 — 380)<br>1125 (1100 — 1200) | Stainless steel and S-materials |
| P11 | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.018<br>0,00070  | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 355 (340 — 390)<br>1175 (1200 — 1200) | Stainless steel and S-materials |
| K1  | A/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.018<br>0,00070  | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 345 (330 — 380)<br>1125 (1100 — 1200) | Non ferrous                     |
| K2  | A/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.017<br>0,00065  | 0.025<br>0,0010  | 0.034<br>0,0013  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 300 (290 — 330)<br>980 (960 — 1000)   | Non ferrous                     |
| K3  | A/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.017<br>0,00065  | 0.025<br>0,0010  | 0.034<br>0,0013  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 255 (240 — 280)<br>840 (790 — 910)    | Non ferrous                     |
| K4  | A/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.017<br>0,00065  | 0.025<br>0,0010  | 0.034<br>0,0013  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 245 (230 — 260)<br>800 (760 — 850)    | Non ferrous                     |
| K5  | A/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.018<br>0,00070  | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 345 (330 — 380)<br>1125 (1100 — 1200) | Hard                            |
| K6  | A/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.020<br>0,00080  | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 500 (480 — 550)<br>1650 (1600 — 1800) | Hard                            |
| K7  | A/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.018<br>0,00070  | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 440 (420 — 490)<br>1450 (1400 — 1600) | Hard                            |
| H3  | M/A                                                                               | 0.0200<br>0,0200 | 0.020<br>0,020 | 0.014<br>0,00055  | 0.020<br>0,00080 | 0.028<br>0,0011  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 95 (72 — 110)<br>310 (240 — 360)      | Plastic and cfcp                |
| H5  | M/A                                                                               | 0.0400<br>0,0400 | 0.040<br>0,040 | 0.014<br>0,00055  | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 305 (290 — 330)<br>1000 (960 — 1000)  | Plastic and cfcp                |
| H7  | M/A                                                                               | 0.0200<br>0,0200 | 0.020<br>0,020 | 0.014<br>0,00055  | 0.020<br>0,00080 | 0.028<br>0,0011  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 95 (72 — 110)<br>310 (240 — 360)      | Plastic and cfcp                |
| H8  | M/A                                                                               | 0.0400<br>0,0400 | 0.040<br>0,040 | 0.011<br>0,00044  | 0.016<br>0,00065 | 0.022<br>0,00085 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 310 (290 — 330)<br>1025 (960 — 1000)  | Plastic and cfcp                |
| H11 | M/A                                                                               | 0.0400<br>0,0400 | 0.040<br>0,040 | 0.014<br>0,00055  | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 390 (360 — 420)<br>1275 (1200 — 1300) | Plastic and cfcp                |
| H12 | M/A                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.0095<br>0,00038 | 0.014<br>0,00055 | 0.019<br>0,00075 | 0.028<br>0,0011 | 0.038<br>0,0015 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.070<br>0,0028 | 345 (320 — 370)<br>1125 (1100 — 1200) | Plastic and cfcp                |
| H21 | M/A                                                                               | 0.0400<br>0,0400 | 0.040<br>0,040 | 0.011<br>0,00044  | 0.016<br>0,00065 | 0.022<br>0,00085 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 310 (290 — 330)<br>1025 (960 — 1000)  | Graphite                        |
| H31 | M/A                                                                               | 0.0300<br>0,0300 | 0.030<br>0,030 | 0.013<br>0,00050  | 0.019<br>0,00075 | 0.025<br>0,0010  | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.090<br>0,0036 | 140 (120 — 160)<br>460 (400 — 520)    | Graphite                        |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

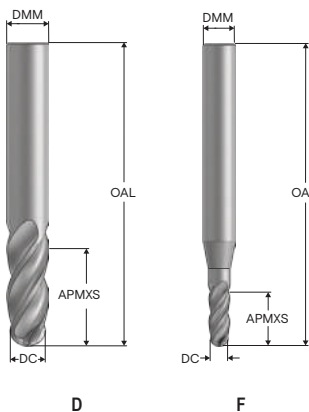
X-Heads

Minimaster

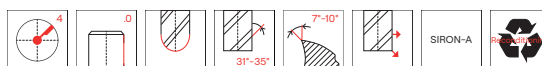


## ST5341

High performance – Steel – Ball nose – 4 Flutes – Cylindrical



—Tolerances:  
—DMM=h5  
—DC=e7  
—RE= ±0,01 mm  
—Regrind possible if DC is ≥Ø6



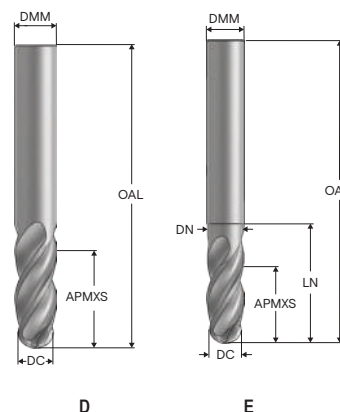
| Designation       | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE   | PCEDC | Shank       | Stock standard |
|-------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|-------|-------------|----------------|
| ST5341-030F2B.0Z4 | SIRA  | 10302669    | 2            | F          | 3,0  | 6,0  | 7,0   | 58,0  | 1,5  | 4     | Cylindrical | ■              |
| ST5341-040F2B.0Z4 | SIRA  | 10302670    | 2            | F          | 4,0  | 6,0  | 10,0  | 58,0  | 2,0  | 4     | Cylindrical | ■              |
| ST5341-050F2B.0Z4 | SIRA  | 10302671    | 2            | F          | 5,0  | 6,0  | 12,0  | 58,0  | 2,5  | 4     | Cylindrical | ■              |
| ST5341-060D2B.0Z4 | SIRA  | 10302672    | 2            | D          | 6,0  | 6,0  | 14,0  | 58,0  | 3,0  | 4     | Cylindrical | ■              |
| ST5341-080D2B.0Z4 | SIRA  | 10302673    | 2            | D          | 8,0  | 8,0  | 18,0  | 64,0  | 4,0  | 4     | Cylindrical | ■              |
| ST5341-100D2B.0Z4 | SIRA  | 10302674    | 2            | D          | 10,0 | 10,0 | 22,0  | 73,0  | 5,0  | 4     | Cylindrical | ■              |
| ST5341-120D2B.0Z4 | SIRA  | 10302675    | 2            | D          | 12,0 | 12,0 | 26,0  | 84,0  | 6,0  | 4     | Cylindrical | ■              |
| ST5341-160D2B.0Z4 | SIRA  | 10302676    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 8,0  | 4     | Cylindrical | ■              |
| ST5341-200D2B.0Z4 | SIRA  | 10302677    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 10,0 | 4     | Cylindrical | ■              |
| ST5341-030F3B.0Z4 | SIRA  | 10302678    | 3            | F          | 3,0  | 6,0  | 9,0   | 58,0  | 1,5  | 4     | Cylindrical | ■              |
| ST5341-040F3B.0Z4 | SIRA  | 10302679    | 3            | F          | 4,0  | 6,0  | 12,0  | 58,0  | 2,0  | 4     | Cylindrical | ■              |
| ST5341-050F3B.0Z4 | SIRA  | 10302680    | 3            | F          | 5,0  | 6,0  | 15,0  | 58,0  | 2,5  | 4     | Cylindrical | ■              |
| ST5341-060D3B.0Z4 | SIRA  | 10302681    | 3            | D          | 6,0  | 6,0  | 18,0  | 64,0  | 3,0  | 4     | Cylindrical | ■              |
| ST5341-080D3B.0Z4 | SIRA  | 10302682    | 3            | D          | 8,0  | 8,0  | 24,0  | 73,0  | 4,0  | 4     | Cylindrical | ■              |
| ST5341-100D3B.0Z4 | SIRA  | 10302683    | 3            | D          | 10,0 | 10,0 | 30,0  | 85,0  | 5,0  | 4     | Cylindrical | ■              |
| ST5341-120D3B.0Z4 | SIRA  | 10302684    | 3            | D          | 12,0 | 12,0 | 36,0  | 100,0 | 6,0  | 4     | Cylindrical | ■              |
| ST5341-160D3B.0Z4 | SIRA  | 10302685    | 3            | D          | 16,0 | 16,0 | 48,0  | 115,0 | 8,0  | 4     | Cylindrical | ■              |
| ST5341-200D3B.0Z4 | SIRA  | 10302686    | 3            | D          | 20,0 | 20,0 | 60,0  | 125,0 | 10,0 | 4     | Cylindrical | ■              |

■ Stocked standard.



## ST5341

High performance – Steel – Ball nose – 4 Flutes – Cylindrical – Inch



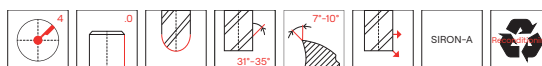
—Tolerances:

—DMM= -.0001"/-.0004"

—DC= + .000" / - .002"

$$-RF = +.0004''$$

—Regrind possible if DC is  $\geq 0.250$

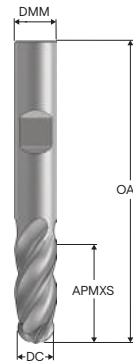


| Regima possible if DC is 20-250 |       |             |              |            |       |       |       |       |       |       |       |       |             |                |
|---------------------------------|-------|-------------|--------------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| Designation                     | Grade | Item number | Length index | Tool shape | DC    | DMM   | APMXS | OAL   | LN    | DN    | RE    | PCEDC | Shank       | Stock standard |
|                                 |       |             |              |            | inch  | inch  | inch  | inch  | inch  | inch  | inch  |       |             |                |
| ST5341-.125D2B.0Z4              | SIRA  | 10302637    | 2            | D          | 0.125 | 0.125 | 0.250 | 1.500 | —     | —     | 0.063 | 4     | Cylindrical | ■              |
| ST5341-.188D2B.0Z4              | SIRA  | 10302638    | 2            | D          | 0.188 | 0.188 | 0.375 | 2.000 | —     | —     | 0.094 | 4     | Cylindrical | ■              |
| ST5341-.250D2B.0Z4              | SIRA  | 10302639    | 2            | D          | 0.250 | 0.250 | 0.500 | 2.500 | —     | —     | 0.125 | 4     | Cylindrical | ■              |
| ST5341-.250E2B.0Z4              | SIRA  | 10302640    | 2            | E          | 0.250 | 0.250 | 0.500 | 2.500 | 0.750 | 0.240 | 0.125 | 4     | Cylindrical | ■              |
| ST5341-.313D2B.0Z4              | SIRA  | 10302641    | 2            | D          | 0.313 | 0.313 | 0.625 | 2.500 | —     | —     | 0.156 | 4     | Cylindrical | ■              |
| ST5341-.313E2B.0Z4              | SIRA  | 10302642    | 2            | E          | 0.313 | 0.313 | 0.625 | 3.000 | 0.938 | 0.300 | 0.156 | 4     | Cylindrical | ■              |
| ST5341-.375D2B.0Z4              | SIRA  | 10302643    | 2            | D          | 0.375 | 0.375 | 0.750 | 2.500 | —     | —     | 0.188 | 4     | Cylindrical | ■              |
| ST5341-.375E2B.0Z4              | SIRA  | 10302644    | 2            | E          | 0.375 | 0.375 | 0.750 | 3.000 | 1.125 | 0.360 | 0.188 | 4     | Cylindrical | ■              |
| ST5341-.438D2B.0Z4              | SIRA  | 10302645    | 2            | D          | 0.438 | 0.438 | 0.875 | 2.750 | —     | —     | 0.219 | 4     | Cylindrical | ■              |
| ST5341-.500D2B.0Z4              | SIRA  | 10302646    | 2            | D          | 0.500 | 0.500 | 1.000 | 3.000 | —     | —     | 0.250 | 4     | Cylindrical | ■              |
| ST5341-.500E2B.0Z4              | SIRA  | 10302647    | 2            | E          | 0.500 | 0.500 | 1.000 | 3.000 | 1.500 | 0.480 | 0.250 | 4     | Cylindrical | ■              |
| ST5341-.625D2B.0Z4              | SIRA  | 10302648    | 2            | D          | 0.625 | 0.625 | 1.250 | 3.500 | —     | —     | 0.313 | 4     | Cylindrical | ■              |
| ST5341-.625E2B.0Z4              | SIRA  | 10302649    | 2            | E          | 0.625 | 0.625 | 1.250 | 3.500 | 1.875 | 0.600 | 0.313 | 4     | Cylindrical | ■              |
| ST5341-.750D2B.0Z4              | SIRA  | 10302650    | 2            | D          | 0.750 | 0.750 | 1.500 | 4.000 | —     | —     | 0.375 | 4     | Cylindrical | ■              |
| ST5341-.750E2B.0Z4              | SIRA  | 10302651    | 2            | E          | 0.750 | 0.750 | 1.500 | 4.000 | 2.250 | 0.720 | 0.375 | 4     | Cylindrical | ■              |
| ST5341-1.00D2B.0Z4              | SIRA  | 10302652    | 2            | D          | 1.000 | 1.000 | 2.000 | 5.000 | —     | —     | 0.500 | 4     | Cylindrical | ■              |
| ST5341-1.00E2B.0Z4              | SIRA  | 10302653    | 2            | E          | 1.000 | 1.000 | 2.000 | 5.000 | 3.000 | 0.960 | 0.500 | 4     | Cylindrical | ■              |

■ Stocked standard.

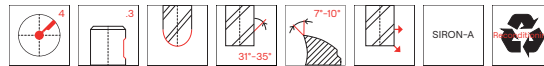
#### ST5341

High performance – Steel – Ball nose – 4 Flutes – Weldon



D

—Tolerances:  
—DMM=h5  
—DC=e7  
—RE= ±0,01 mm  
—Regrind possible

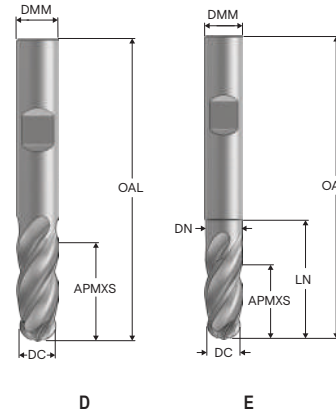


| Designation       | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE   | PCEDC | Shank  | Stock standard           |
|-------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|-------|--------|--------------------------|
| ST5341-060D2B.3Z4 | SIRA  | 10302687    | 2            | D          | 6,0  | 6,0  | 14,0  | 58,0  | 3,0  | 4     | Weldon | <input type="checkbox"/> |
| ST5341-080D2B.3Z4 | SIRA  | 10302688    | 2            | D          | 8,0  | 8,0  | 18,0  | 64,0  | 4,0  | 4     | Weldon | <input type="checkbox"/> |
| ST5341-100D2B.3Z4 | SIRA  | 10302689    | 2            | D          | 10,0 | 10,0 | 22,0  | 73,0  | 5,0  | 4     | Weldon | <input type="checkbox"/> |
| ST5341-120D2B.3Z4 | SIRA  | 10302690    | 2            | D          | 12,0 | 12,0 | 26,0  | 84,0  | 6,0  | 4     | Weldon | <input type="checkbox"/> |
| ST5341-160D2B.3Z4 | SIRA  | 10302691    | 2            | D          | 16,0 | 16,0 | 34,0  | 95,0  | 8,0  | 4     | Weldon | <input type="checkbox"/> |
| ST5341-200D2B.3Z4 | SIRA  | 10302692    | 2            | D          | 20,0 | 20,0 | 42,0  | 109,0 | 10,0 | 4     | Weldon | <input type="checkbox"/> |
| ST5341-060D3B.3Z4 | SIRA  | 10302693    | 3            | D          | 6,0  | 6,0  | 18,0  | 64,0  | 3,0  | 4     | Weldon | <input type="checkbox"/> |
| ST5341-080D3B.3Z4 | SIRA  | 10302694    | 3            | D          | 8,0  | 8,0  | 24,0  | 73,0  | 4,0  | 4     | Weldon | <input type="checkbox"/> |
| ST5341-100D3B.3Z4 | SIRA  | 10302695    | 3            | D          | 10,0 | 10,0 | 30,0  | 85,0  | 5,0  | 4     | Weldon | <input type="checkbox"/> |
| ST5341-120D3B.3Z4 | SIRA  | 10302696    | 3            | D          | 12,0 | 12,0 | 36,0  | 100,0 | 6,0  | 4     | Weldon | <input type="checkbox"/> |
| ST5341-160D3B.3Z4 | SIRA  | 10302697    | 3            | D          | 16,0 | 16,0 | 48,0  | 115,0 | 8,0  | 4     | Weldon | <input type="checkbox"/> |
| ST5341-200D3B.3Z4 | SIRA  | 10302698    | 3            | D          | 20,0 | 20,0 | 60,0  | 125,0 | 10,0 | 4     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

#### ST5341

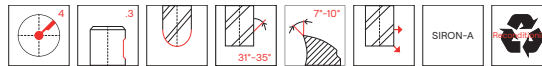
High performance – Steel – Ball nose – 4 Flutes – Weldon – Inch



—Tolerances:  
 —DMM= -.0001"/-.0004"  
 —DC= +.000"/-.002"  
 —RE= ±.0004"

—Regrind possible

☐ Weldon available. Delivery time is 3 days.



#### Cutting data – ST5341 Copy milling roughing

| SMG |         | $a_e/DC$       | $a_p/DC$   | $f_z$           |                 |                 |                 |                 |                |                |                |                |                | $v_c$                               |                  |
|-----|---------|----------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|-------------------------------------|------------------|
|     |         |                |            | 1/8             | 3/16            | 1/4             | 5/16            | 3/8             | 7/16           | 1/2            | 5/8            | 3/4            | 1              |                                     |                  |
| P1  | M/A/D/E | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 260 (210 — 310)<br>850 (690 — 1000) | Hard             |
| P2  | M/A/D/E | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 250 (200 — 310)<br>820 (660 — 1000) |                  |
| P3  | M/A/D/E | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 215 (180 — 260)<br>710 (600 — 850)  | Plastic and cfrp |
| P4  | M/A/D/E | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 190 (160 — 230)<br>620 (530 — 750)  |                  |
| P5  | M/A/D/E | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 180 (150 — 220)<br>590 (500 — 720)  | Graphite         |
| P6  | M/A/D/E | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 205 (170 — 250)<br>670 (560 — 820)  |                  |
| P7  | M/A/D/E | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 190 (160 — 230)<br>620 (530 — 750)  | X-Heads          |
| P8  | M/A/D/E | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 180 (150 — 220)<br>590 (500 — 720)  |                  |
| P11 | M/A/D/E | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 185 (150 — 230)<br>610 (500 — 750)  | Minimaster       |
| P12 | M/A/D/E | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,20<br>0,0080 | 110 (88 — 130)<br>360 (290 — 420)   |                  |
| K1  | E       | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 255 (210 — 310)<br>840 (690 — 1000) | X-Heads          |
| K2  | E       | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 220 (180 — 270)<br>720 (600 — 880)  |                  |
| K3  | E       | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 185 (150 — 230)<br>610 (500 — 750)  | Minimaster       |
| K4  | E       | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 175 (150 — 210)<br>570 (500 — 680)  |                  |
| K5  | E       | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 105 (85 — 130)<br>345 (280 — 420)   | Minimaster       |
| K6  | E       | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 155 (130 — 190)<br>510 (430 — 620)  |                  |
| K7  | E       | 0,060<br>0,060 | 2,0<br>2,0 | 0,028<br>0,0011 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040 | 0,11<br>0,0044 | 0,14<br>0,0055 | 0,17<br>0,0065 | 0,22<br>0,0085 | 135 (110 — 160)<br>445 (370 — 520)  |                  |

For cutting data recalculations, see pages 699 - 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

#### Cutting data – ST5341 Copy milling roughing – Inch

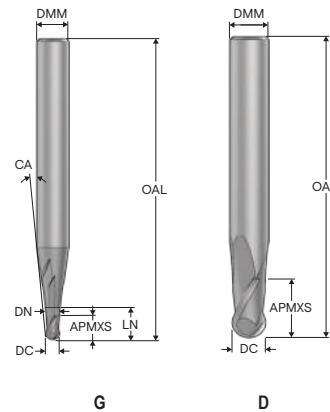
| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 |                 |                |                |                |                |                | v <sub>c</sub>                      |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|-------------------------------------|
|     |                                                                                   |                    |                    | 1/8             | 3/16            | 1/4             | 5/16            | 3/8             | 7/16           | 1/2            | 5/8            | 3/4            | 1              |                                     |
| P1  | M/A/D/E                                                                           | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 260 (210 — 310)<br>850 (690 — 1000) |
| P2  | M/A/D/E                                                                           | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 250 (200 — 310)<br>820 (660 — 1000) |
| P3  | M/A/D/E                                                                           | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 215 (180 — 260)<br>710 (600 — 850)  |
| P4  | M/A/D/E                                                                           | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 190 (160 — 230)<br>620 (530 — 750)  |
| P5  | M/A/D/E                                                                           | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 180 (150 — 220)<br>590 (500 — 720)  |
| P6  | M/A/D/E                                                                           | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 205 (170 — 250)<br>670 (560 — 820)  |
| P7  | M/A/D/E                                                                           | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 190 (160 — 230)<br>620 (530 — 750)  |
| P8  | M/A/D/E                                                                           | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 180 (150 — 220)<br>590 (500 — 720)  |
| P11 | M/A/D/E                                                                           | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 185 (150 — 230)<br>610 (500 — 750)  |
| P12 | M/A/D/E                                                                           | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0080 | 20 (88 — 130)<br>360 (290 — 420)    |
| K1  | E                                                                                 | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 255 (210 — 310)<br>840 (690 — 1000) |
| K2  | E                                                                                 | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 220 (180 — 270)<br>720 (600 — 880)  |
| K3  | E                                                                                 | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 185 (150 — 230)<br>610 (500 — 750)  |
| K4  | E                                                                                 | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 175 (150 — 210)<br>570 (500 — 680)  |
| K5  | E                                                                                 | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 105 (85 — 130)<br>345 (280 — 420)   |
| K6  | E                                                                                 | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 155 (130 — 190)<br>510 (430 — 620)  |
| K7  | E                                                                                 | 0,060<br>0.060     | 2,0<br>2.0         | 0,028<br>0.0011 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 135 (110 — 160)<br>445 (370 — 520)  |

For cutting data recalculations, see pages 699 – 707

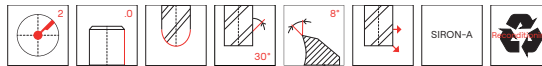
SMG = Seco material group  
 Coolant = A=air D=dry E=emulsion M=mist spray  
 v<sub>c</sub> = m/min (sf/min)  
 f<sub>z</sub> = mm (in/tooth)  
 a<sub>p</sub> = mm/DC (in/DC) = factor  
 a<sub>e</sub> = mm/DC (in/DC) = factor  
 All cutting data are target values

## JHB970

High speed – Universal – Ball nose – 2 Flutes – Cylindrical



- Tolerances:
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,01 mm
- Regrind possible if DC is ≥Ø6



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN  | RE   | CA° | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|-----|------|-----|-------|-------------|----------------|
|                  |       |             |              |            | mm   | mm   | mm    | mm    | mm   | mm  | mm   |     |       |             |                |
| JHB970020G1B.0Z2 | SIRA  | 10072058    | 1            | G          | 2,0  | 3,0  | 3,0   | 50,0  | 10,0 | 1,9 | 1,0  | 2,5 | 2     | Cylindrical | ■              |
| JHB970030D1B.0Z2 | SIRA  | 10072059    | 1            | D          | 3,0  | 3,0  | 4,5   | 50,0  | —    | —   | 1,5  | —   | 2     | Cylindrical | ■              |
| JHB970040D1B.0Z2 | SIRA  | 10072060    | 1            | D          | 4,0  | 4,0  | 6,0   | 60,0  | —    | —   | 2,0  | —   | 2     | Cylindrical | ■              |
| JHB970050D1B.0Z2 | SIRA  | 10072061    | 1            | D          | 5,0  | 5,0  | 7,5   | 60,0  | —    | —   | 2,5  | —   | 2     | Cylindrical | ■              |
| JHB970060D1B.0Z2 | SIRA  | 10072062    | 1            | D          | 6,0  | 6,0  | 9,0   | 75,0  | —    | —   | 3,0  | —   | 2     | Cylindrical | ■              |
| JHB970020G2B.0Z2 | SIRA  | 10072063    | 2            | G          | 2,0  | 6,0  | 3,0   | 60,0  | 4,0  | 1,9 | 1,0  | 8,0 | 2     | Cylindrical | ■              |
| JHB970025G2B.0Z2 | SIRA  | 10072064    | 2            | G          | 2,5  | 6,0  | 4,0   | 60,0  | 5,0  | 2,4 | 1,25 | 7,5 | 2     | Cylindrical | ■              |
| JHB970030G2B.0Z2 | SIRA  | 10072065    | 2            | G          | 3,0  | 6,0  | 4,5   | 60,0  | 6,0  | 2,8 | 1,5  | 5,5 | 2     | Cylindrical | ■              |
| JHB970035G2B.0Z2 | SIRA  | 10072066    | 2            | G          | 3,5  | 6,0  | 5,0   | 60,0  | 7,0  | 3,2 | 1,75 | 4,5 | 2     | Cylindrical | ■              |
| JHB970040G2B.0Z2 | SIRA  | 10072067    | 2            | G          | 4,0  | 6,0  | 6,0   | 60,0  | 8,0  | 3,7 | 2,0  | 3,0 | 2     | Cylindrical | ■              |
| JHB970050G2B.0Z2 | SIRA  | 10072068    | 2            | G          | 5,0  | 6,0  | 7,5   | 60,0  | 10,0 | 4,6 | 2,5  | 2,0 | 2     | Cylindrical | ■              |
| JHB970060G2B.0Z2 | SIRA  | 10072069    | 2            | G          | 6,0  | 8,0  | 9,0   | 75,0  | 12,0 | 5,6 | 3,0  | 2,5 | 2     | Cylindrical | ■              |
| JHB970080D2B.0Z2 | SIRA  | 10072070    | 2            | D          | 8,0  | 8,0  | 12,0  | 75,0  | —    | —   | 4,0  | —   | 2     | Cylindrical | ■              |
| JHB970100D2B.0Z2 | SIRA  | 10072071    | 2            | D          | 10,0 | 10,0 | 15,0  | 80,0  | —    | —   | 5,0  | —   | 2     | Cylindrical | ■              |
| JHB970120D2B.0Z2 | SIRA  | 10072072    | 2            | D          | 12,0 | 12,0 | 18,0  | 90,0  | —    | —   | 6,0  | —   | 2     | Cylindrical | ■              |
| JHB970160D2B.0Z2 | SIRA  | 10072073    | 2            | D          | 16,0 | 16,0 | 24,0  | 100,0 | —    | —   | 8,0  | —   | 2     | Cylindrical | ■              |
| JHB970020G3B.0Z2 | SIRA  | 10072074    | 3            | G          | 2,0  | 6,0  | 3,0   | 80,0  | 4,0  | 1,9 | 1,0  | 8,0 | 2     | Cylindrical | ■              |
| JHB970030G3B.0Z2 | SIRA  | 10072075    | 3            | G          | 3,0  | 6,0  | 4,5   | 80,0  | 6,0  | 2,8 | 1,5  | 5,5 | 2     | Cylindrical | ■              |
| JHB970040G3B.0Z2 | SIRA  | 10072076    | 3            | G          | 4,0  | 6,0  | 6,0   | 80,0  | 8,0  | 3,7 | 2,0  | 3,0 | 2     | Cylindrical | ■              |
| JHB970060G3B.0Z2 | SIRA  | 10072077    | 3            | G          | 6,0  | 8,0  | 9,0   | 100,0 | 12,0 | 5,6 | 3,0  | 2,5 | 2     | Cylindrical | ■              |
| JHB970080D3B.0Z2 | SIRA  | 10072078    | 3            | D          | 8,0  | 8,0  | 12,0  | 108,0 | —    | —   | 4,0  | —   | 2     | Cylindrical | ■              |
| JHB970100D3B.0Z2 | SIRA  | 10072079    | 3            | D          | 10,0 | 10,0 | 15,0  | 125,0 | —    | —   | 5,0  | —   | 2     | Cylindrical | ■              |
| JHB970120D3B.0Z2 | SIRA  | 10072080    | 3            | D          | 12,0 | 12,0 | 18,0  | 125,0 | —    | —   | 6,0  | —   | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JHB970 Copy milling roughing

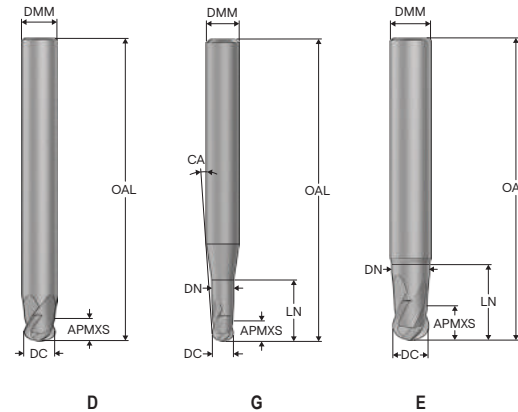
| Universal                       | SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$             |                   |                   |                   |                   |                  |                  |                  |                  |                  |                 | $v_c$                              |
|---------------------------------|-----|-----------------------------------------------------------------------------------|----------------|--------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|------------------|-----------------|------------------------------------|
|                                 |     |                                                                                   |                |              | 2                 | 2.5               | 3                 | 3.5               | 4                 | 5                | 6                | 8                | 10               | 12               | 16              |                                    |
| Steel and cast iron             | P1  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.011<br>0.00044  | 0.014<br>0.00055  | 0.016<br>0.00065  | 0.019<br>0.00075  | 0.022<br>0.00085  | 0.028<br>0.0011  | 0.032<br>0.0013  | 0.044<br>0.0017  | 0.055<br>0.0022  | 0.065<br>0.0026  | 0.080<br>0.0032 | 210 (190 — 230)<br>690 (630 — 750) |
|                                 | P2  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.011<br>0.00044  | 0.014<br>0.00055  | 0.017<br>0.00065  | 0.019<br>0.00075  | 0.022<br>0.00085  | 0.028<br>0.0011  | 0.034<br>0.0013  | 0.044<br>0.0017  | 0.055<br>0.0022  | 0.065<br>0.0026  | 0.080<br>0.0032 | 205 (180 — 230)<br>670 (600 — 750) |
|                                 | P3  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.013<br>0.00050  | 0.016<br>0.00065  | 0.018<br>0.00070  | 0.020<br>0.00080  | 0.026<br>0.0010  | 0.032<br>0.0013  | 0.042<br>0.0017  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 180 (160 — 200)<br>590 (530 — 650) |
|                                 | P4  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.013<br>0.00050  | 0.015<br>0.00060  | 0.018<br>0.00070  | 0.020<br>0.00080  | 0.026<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 155 (140 — 170)<br>510 (460 — 550) |
|                                 | P5  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060  | 0.018<br>0.00065  | 0.020<br>0.00080  | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 150 (140 — 170)<br>490 (460 — 550) |
| Stainless steel and S-materials | P6  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060  | 0.017<br>0.00065  | 0.020<br>0.00080  | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 170 (150 — 190)<br>560 (500 — 620) |
|                                 | P7  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060  | 0.017<br>0.00065  | 0.020<br>0.00080  | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 160 (140 — 180)<br>520 (460 — 590) |
|                                 | P8  | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.013<br>0.00050  | 0.016<br>0.00065  | 0.018<br>0.00070  | 0.020<br>0.00080  | 0.026<br>0.0010  | 0.032<br>0.0013  | 0.042<br>0.0017  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 150 (140 — 170)<br>490 (460 — 550) |
|                                 | P11 | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060  | 0.017<br>0.00065  | 0.020<br>0.00080  | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 75 (67 — 86)<br>245 (220 — 280)    |
|                                 | P12 | M                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00028  | 0.0085<br>0.00034 | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.014<br>0.00055  | 0.017<br>0.00065 | 0.020<br>0.00080 | 0.028<br>0.0011  | 0.034<br>0.0013  | 0.040<br>0.0016  | 0.050<br>0.0020 | 48 (42 — 53)<br>155 (140 — 170)    |
| Non ferrous                     | M1  | E                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.0090<br>0.00036 | 0.011<br>0.00044  | 0.013<br>0.00050  | 0.015<br>0.00060  | 0.018<br>0.00070  | 0.022<br>0.00085 | 0.026<br>0.0010  | 0.036<br>0.0014  | 0.044<br>0.0017  | 0.050<br>0.0020  | 0.065<br>0.0026 | 90 (80 — 100)<br>295 (270 — 320)   |
|                                 | M2  | E                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.0080<br>0.00032 | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.014<br>0.00055  | 0.016<br>0.00065  | 0.020<br>0.00080 | 0.024<br>0.00095 | 0.032<br>0.0013  | 0.040<br>0.0016  | 0.048<br>0.0019  | 0.060<br>0.0024 | 75 (65 — 85)<br>245 (220 — 270)    |
|                                 | M3  | E                                                                                 | 0.150<br>0.150 | 1.0<br>1.0   | 0.0060<br>0.00024 | 0.0075<br>0.00030 | 0.0090<br>0.00036 | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012  | 0.036<br>0.0014  | 0.044<br>0.0017 | 65 (55 — 75)<br>215 (190 — 240)    |
|                                 | M4  | E                                                                                 | 0.150<br>0.150 | 1.0<br>1.0   | 0.0050<br>0.00020 | 0.0065<br>0.00026 | 0.0080<br>0.00032 | 0.0090<br>0.00036 | 0.010<br>0.00040  | 0.013<br>0.00050 | 0.016<br>0.00065 | 0.020<br>0.00080 | 0.026<br>0.0010  | 0.032<br>0.0013  | 0.038<br>0.0015 | 49 (42 — 56)<br>160 (140 — 180)    |
|                                 | M5  | E                                                                                 | 0.150<br>0.150 | 1.0<br>1.0   | 0.0050<br>0.00020 | 0.0065<br>0.00026 | 0.0080<br>0.00032 | 0.0090<br>0.00036 | 0.010<br>0.00040  | 0.013<br>0.00050 | 0.016<br>0.00065 | 0.020<br>0.00080 | 0.026<br>0.0010  | 0.032<br>0.0013  | 0.038<br>0.0015 | 41 (35 — 47)<br>135 (120 — 150)    |
| Hard                            | S1  | E                                                                                 | 0.100<br>0.100 | 0.80<br>0.80 | 0.0060<br>0.00024 | 0.0075<br>0.00030 | 0.0090<br>0.00036 | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012  | 0.036<br>0.0014  | 0.044<br>0.0017 | 50 (40 — 59)<br>165 (140 — 190)    |
|                                 | S2  | E                                                                                 | 0.100<br>0.100 | 0.80<br>0.80 | 0.0060<br>0.00024 | 0.0075<br>0.00030 | 0.0090<br>0.00036 | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060 | 0.018<br>0.00070 | 0.024<br>0.00095 | 0.030<br>0.0012  | 0.036<br>0.0014  | 0.044<br>0.0017 | 40 (33 — 48)<br>130 (110 — 150)    |
| Plastic and cf/rp               | S3  | E                                                                                 | 0.100<br>0.100 | 0.60<br>0.60 | 0.0040<br>0.00016 | 0.0050<br>0.00020 | 0.0060<br>0.00024 | 0.0070<br>0.00028 | 0.0080<br>0.00032 | 0.010<br>0.00040 | 0.012<br>0.00048 | 0.016<br>0.00065 | 0.020<br>0.00080 | 0.024<br>0.00095 | 0.028<br>0.0011 | 30 (20 — 39)<br>100 (66 — 120)     |
|                                 | S11 | E                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060  | 0.018<br>0.00065  | 0.020<br>0.00080  | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 90 (79 — 100)<br>295 (260 — 320)   |
|                                 | S12 | E                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.010<br>0.00040  | 0.012<br>0.00048  | 0.015<br>0.00060  | 0.018<br>0.00065  | 0.020<br>0.00080  | 0.025<br>0.0010  | 0.030<br>0.0012  | 0.040<br>0.0016  | 0.050<br>0.0020  | 0.060<br>0.0024  | 0.075<br>0.0030 | 70 (61 — 80)<br>230 (210 — 260)    |
|                                 | S13 | E                                                                                 | 0.200<br>0.200 | 1.0<br>1.0   | 0.0085<br>0.00034 | 0.011<br>0.00044  | 0.013<br>0.00050  | 0.015<br>0.00060  | 0.017<br>0.00065  | 0.022<br>0.00085 | 0.026<br>0.0010  | 0.034<br>0.0013  | 0.044<br>0.0017  | 0.050<br>0.0020  | 0.065<br>0.0026 | 55 (48 — 63)<br>180 (160 — 200)    |

For cutting data recalculations, see pages 699 – 707

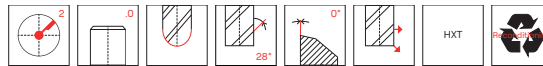
SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

## JH112

High speed – High precision – Hardened steel – Ball nose – 2 Flutes – Cylindrical



- Tolerances:
- Run-out= <0,005 mm
- DMM= h5
- DC= 0-0,01 mm
- RE= ±0,005 mm
- Regrind possible if DC is ≥Ø6



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE   | CA°  | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|------|------|------|-------|-------------|----------------|
|                     |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm   |      |       |             |                |
| JH112020G1B.0Z2-HXT | 02970112    | 1            | G          | 2,0  | 4,0  | 2,0   | 40,0  | 4,0  | 1,9  | 1,0  | 6,45 | 2     | Cylindrical | ■              |
| JH112030G1B.0Z2-HXT | 02970113    | 1            | G          | 3,0  | 4,0  | 3,0   | 40,0  | 6,0  | 2,8  | 1,5  | 3,3  | 2     | Cylindrical | ■              |
| JH112040D1B.0Z2-HXT | 02970114    | 1            | D          | 4,0  | 4,0  | 4,0   | 40,0  | —    | —    | 2,0  | —    | 2     | Cylindrical | ■              |
| JH112050G1B.0Z2-HXT | 02970115    | 1            | G          | 5,0  | 6,0  | 5,0   | 50,0  | 10,0 | 4,6  | 2,5  | 2,0  | 2     | Cylindrical | ■              |
| JH112060D1B.0Z2-HXT | 02970116    | 1            | D          | 6,0  | 6,0  | 6,0   | 50,0  | —    | —    | 3,0  | —    | 2     | Cylindrical | ■              |
| JH112080D1B.0Z2-HXT | 02970117    | 1            | D          | 8,0  | 8,0  | 8,0   | 65,0  | —    | —    | 4,0  | —    | 2     | Cylindrical | ■              |
| JH112100D1B.0Z2-HXT | 02970118    | 1            | D          | 10,0 | 10,0 | 10,0  | 65,0  | —    | —    | 5,0  | —    | 2     | Cylindrical | ■              |
| JH112020G2B.0Z2-HXT | 02970119    | 2            | G          | 2,0  | 3,0  | 2,0   | 50,0  | 10,0 | 1,9  | 1,0  | 2,5  | 2     | Cylindrical | ■              |
| JH112030D2B.0Z2-HXT | 02970120    | 2            | D          | 3,0  | 3,0  | 3,0   | 50,0  | —    | —    | 1,5  | —    | 2     | Cylindrical | ■              |
| JH112040D2B.0Z2-HXT | 02970121    | 2            | D          | 4,0  | 4,0  | 4,0   | 60,0  | —    | —    | 2,0  | —    | 2     | Cylindrical | ■              |
| JH112050D2B.0Z2-HXT | 02970122    | 2            | D          | 5,0  | 5,0  | 5,0   | 60,0  | —    | —    | 2,5  | —    | 2     | Cylindrical | ■              |
| JH112060D2B.0Z2-HXT | 02970123    | 2            | D          | 6,0  | 6,0  | 6,0   | 75,0  | —    | —    | 3,0  | —    | 2     | Cylindrical | ■              |
| JH112020G3B.0Z2-HXT | 02970124    | 3            | G          | 2,0  | 6,0  | 2,0   | 60,0  | 4,0  | 1,9  | 1,0  | 8,12 | 2     | Cylindrical | ■              |
| JH112025G3B.0Z2-HXT | 02970125    | 3            | G          | 2,5  | 6,0  | 2,5   | 60,0  | 5,0  | 2,4  | 1,25 | 7,39 | 2     | Cylindrical | ■              |
| JH112030G3B.0Z2-HXT | 02970126    | 3            | G          | 3,0  | 6,0  | 3,0   | 60,0  | 6,0  | 2,8  | 1,5  | 5,5  | 2     | Cylindrical | ■              |
| JH112035G3B.0Z2-HXT | 02968289    | 3            | G          | 3,5  | 6,0  | 3,5   | 65,0  | 7,0  | 3,2  | 1,75 | 3,81 | 2     | Cylindrical | ■              |
| JH112040G3B.0Z2-HXT | 02970127    | 3            | G          | 4,0  | 6,0  | 4,0   | 65,0  | 8,0  | 3,7  | 2,0  | 3,34 | 2     | Cylindrical | ■              |
| JH112050G3B.0Z2-HXT | 02970128    | 3            | G          | 5,0  | 6,0  | 5,0   | 65,0  | 10,0 | 4,6  | 2,5  | 2,0  | 2     | Cylindrical | ■              |
| JH112060G3B.0Z2-HXT | 02970129    | 3            | G          | 6,0  | 8,0  | 6,0   | 75,0  | 12,0 | 5,6  | 3,0  | 2,78 | 2     | Cylindrical | ■              |
| JH112080E3B.0Z2-HXT | 02968290    | 3            | E          | 8,0  | 8,0  | 8,0   | 75,0  | 16,0 | 7,4  | 4,0  | —    | 2     | Cylindrical | ■              |
| JH112100E3B.0Z2-HXT | 02968291    | 3            | E          | 10,0 | 10,0 | 10,0  | 80,0  | 20,0 | 9,4  | 5,0  | —    | 2     | Cylindrical | ■              |
| JH112120E3B.0Z2-HXT | 02968292    | 3            | E          | 12,0 | 12,0 | 12,0  | 90,0  | 24,0 | 11,4 | 6,0  | —    | 2     | Cylindrical | ■              |
| JH112020G4B.0Z2-HXT | 02970130    | 4            | G          | 2,0  | 6,0  | 2,0   | 80,0  | 20,0 | 1,9  | 1,0  | 3,82 | 2     | Cylindrical | ■              |
| JH112030G4B.0Z2-HXT | 02970131    | 4            | G          | 3,0  | 6,0  | 3,0   | 80,0  | 20,0 | 2,8  | 1,5  | 2,91 | 2     | Cylindrical | ■              |
| JH112040G4B.0Z2-HXT | 02970132    | 4            | G          | 4,0  | 6,0  | 4,0   | 80,0  | 20,0 | 3,7  | 2,0  | 1,97 | 2     | Cylindrical | ■              |
| JH112050G4B.0Z2-HXT | 02970133    | 4            | G          | 5,0  | 6,0  | 5,0   | 100,0 | 50,0 | 4,6  | 2,5  | 0,53 | 2     | Cylindrical | ■              |
| JH112060D4B.0Z2-HXT | 02968293    | 4            | D          | 6,0  | 6,0  | 6,0   | 100,0 | —    | —    | 3,0  | —    | 2     | Cylindrical | ■              |
| JH112080D4B.0Z2-HXT | 02968294    | 4            | D          | 8,0  | 8,0  | 8,0   | 110,0 | —    | —    | 4,0  | —    | 2     | Cylindrical | ■              |
| JH112100D4B.0Z2-HXT | 02968295    | 4            | D          | 10,0 | 10,0 | 10,0  | 125,0 | —    | —    | 5,0  | —    | 2     | Cylindrical | ■              |
| JH112120D4B.0Z2-HXT | 02968296    | 4            | D          | 12,0 | 12,0 | 12,0  | 125,0 | —    | —    | 6,0  | —    | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfzp

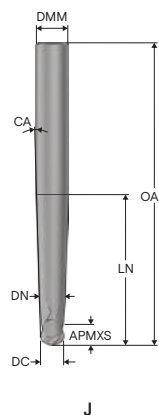
Graphite

X-Heads

Minimaster

JH112

High speed – High precision – Hardened steel – Ball nose – 2 Flutes – Cylindrical



J

—Tolerances:

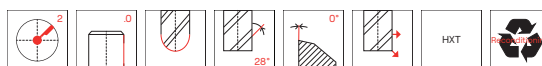
—Run-out= &lt;0,005 mm

—DMM= h5

—DC= 0-0,01 mm

—RE= ±0,005 mm

—Reground possible



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN  | RE  | CA° | NA°  | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|-----|-----|-----|------|-------|-------------|----------------|
|                     |             |              |            | mm   | mm   | mm    | mm    | mm   | mm  | mm  |     |      |       |             |                |
| JH112020J5B.0Z2-HXT | 02970134    | 5            | J          | 2,0  | 6,0  | 2,0   | 80,0  | 35,0 | 1,9 | 1,0 | 3,3 | 3,55 | 2     | Cylindrical | ■              |
| JH112030J5B.0Z2-HXT | 02970135    | 5            | J          | 3,0  | 6,0  | 3,0   | 80,0  | 40,0 | 2,8 | 1,5 | 2,2 | 2,5  | 2     | Cylindrical | ■              |
| JH112040J5B.0Z2-HXT | 02970136    | 5            | J          | 4,0  | 6,0  | 4,0   | 80,0  | 52,0 | 3,7 | 2,0 | 1,2 | 1,4  | 2     | Cylindrical | ■              |
| JH112050J5B.0Z2-HXT | 02970137    | 5            | J          | 5,0  | 8,0  | 5,0   | 100,0 | 56,0 | 4,6 | 2,5 | 1,6 | 1,95 | 2     | Cylindrical | ■              |
| JH112060J5B.0Z2-HXT | 02970138    | 5            | J          | 6,0  | 8,0  | 6,0   | 100,0 | 56,0 | 5,6 | 3,0 | 1,1 | 1,4  | 2     | Cylindrical | ■              |
| JH112080J5B.0Z2-HXT | 02970139    | 5            | J          | 8,0  | 10,0 | 8,0   | 125,0 | 62,0 | 7,4 | 4,0 | 1,0 | 1,43 | 2     | Cylindrical | ■              |
| JH112100J5B.0Z2-HXT | 02970140    | 5            | J          | 10,0 | 12,0 | 10,0  | 125,0 | 61,0 | 9,4 | 5,0 | 1,0 | 1,5  | 2     | Cylindrical | ■              |
| JH112060J6B.0Z2-HXT | 02970141    | 6            | J          | 6,0  | 10,0 | 6,0   | 125,0 | 62,0 | 5,6 | 3,0 | 2,0 | 2,3  | 2     | Cylindrical | ■              |
| JH112080J6B.0Z2-HXT | 02970142    | 6            | J          | 8,0  | 12,0 | 8,0   | 150,0 | 67,0 | 7,4 | 4,0 | 1,8 | 2,3  | 2     | Cylindrical | ■              |
| JH112100J6B.0Z2-HXT | 02970143    | 6            | J          | 10,0 | 12,0 | 10,0  | 150,0 | 79,0 | 9,4 | 5,0 | 0,8 | 1,1  | 2     | Cylindrical | ■              |

■ Stocked standard.



## Cutting data – JH112 Copy milling finishing

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 |                 |                 |                 |                |                |                | v <sub>c</sub>                        |                                 |
|-----|-----------------------------------------------------------------------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                    | 2               | 2.5             | 3               | 3.5             | 4               | 5               | 6               | 8              | 10             | 12             |                                       |                                 |
| K1  | E                                                                                 | 0.30<br>0.30       | 0.030<br>0.0012 | 0.038<br>0.0015 | 0.044<br>0.0017 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.12<br>0.0048 | 0.15<br>0.0060 | 0.18<br>0.0070 | 520 (500 — 730)<br>1700 (1700 — 2300) | Steel and cast iron             |
| K2  | E                                                                                 | 0.30<br>0.30       | 0.030<br>0.0012 | 0.038<br>0.0015 | 0.044<br>0.0017 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.12<br>0.0048 | 0.15<br>0.0060 | 0.18<br>0.0070 | 445 (430 — 630)<br>1450 (1500 — 2000) |                                 |
| K3  | E                                                                                 | 0.30<br>0.30       | 0.030<br>0.0012 | 0.038<br>0.0015 | 0.044<br>0.0017 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.12<br>0.0048 | 0.15<br>0.0060 | 0.18<br>0.0070 | 380 (360 — 530)<br>1250 (1200 — 1700) |                                 |
| K4  | E                                                                                 | 0.30<br>0.30       | 0.030<br>0.0012 | 0.038<br>0.0015 | 0.044<br>0.0017 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.12<br>0.0048 | 0.15<br>0.0060 | 0.18<br>0.0070 | 360 (350 — 510)<br>1175 (1200 — 1600) |                                 |
| K5  | E                                                                                 | 0.30<br>0.30       | 0.030<br>0.0012 | 0.038<br>0.0015 | 0.044<br>0.0017 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.12<br>0.0048 | 0.15<br>0.0060 | 0.18<br>0.0070 | 415 (370 — 610)<br>1350 (1300 — 2000) |                                 |
| K6  | E                                                                                 | 0.30<br>0.30       | 0.030<br>0.0012 | 0.038<br>0.0015 | 0.044<br>0.0017 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.12<br>0.0048 | 0.15<br>0.0060 | 0.18<br>0.0070 | 610 (550 — 900)<br>2000 (1900 — 2900) |                                 |
| K7  | E                                                                                 | 0.30<br>0.30       | 0.030<br>0.0012 | 0.038<br>0.0015 | 0.044<br>0.0017 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.12<br>0.0048 | 0.15<br>0.0060 | 0.18<br>0.0070 | 680 (560 — 790)<br>2225 (1900 — 2500) | Stainless steel and S-materials |
| H3  | M                                                                                 | 0.16<br>0.16       | 0.028<br>0.0011 | 0.036<br>0.0014 | 0.042<br>0.0017 | 0.048<br>0.0019 | 0.055<br>0.0022 | 0.070<br>0.0028 | 0.085<br>0.0034 | 0.11<br>0.0044 | 0.14<br>0.0055 | 0.17<br>0.0065 | 155 (150 — 230)<br>510 (500 — 750)    |                                 |
| H5  | M                                                                                 | 0.30<br>0.30       | 0.030<br>0.0012 | 0.038<br>0.0015 | 0.044<br>0.0017 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.12<br>0.0048 | 0.15<br>0.0060 | 0.18<br>0.0070 | 285 (240 — 330)<br>940 (790 — 1000)   |                                 |
| H7  | M                                                                                 | 0.16<br>0.16       | 0.028<br>0.0011 | 0.036<br>0.0014 | 0.042<br>0.0017 | 0.048<br>0.0019 | 0.055<br>0.0022 | 0.070<br>0.0028 | 0.085<br>0.0034 | 0.11<br>0.0044 | 0.14<br>0.0055 | 0.17<br>0.0065 | 155 (150 — 230)<br>510 (500 — 750)    |                                 |
| H8  | M                                                                                 | 0.30<br>0.30       | 0.030<br>0.0012 | 0.038<br>0.0015 | 0.044<br>0.0017 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.12<br>0.0048 | 0.15<br>0.0060 | 0.18<br>0.0070 | 285 (240 — 330)<br>940 (790 — 1000)   | Non ferrous                     |
| H11 | M                                                                                 | 0.30<br>0.30       | 0.030<br>0.0012 | 0.038<br>0.0015 | 0.044<br>0.0017 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.12<br>0.0048 | 0.15<br>0.0060 | 0.18<br>0.0070 | 360 (300 — 420)<br>1175 (990 — 1300)  |                                 |
| H12 | M                                                                                 | 0.30<br>0.30       | 0.030<br>0.0012 | 0.038<br>0.0015 | 0.044<br>0.0017 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.12<br>0.0048 | 0.15<br>0.0060 | 0.18<br>0.0070 | 330 (280 — 380)<br>1075 (920 — 1200)  |                                 |
| H21 | M                                                                                 | 0.30<br>0.30       | 0.030<br>0.0012 | 0.038<br>0.0015 | 0.044<br>0.0017 | 0.050<br>0.0020 | 0.060<br>0.0024 | 0.075<br>0.0030 | 0.090<br>0.0036 | 0.12<br>0.0048 | 0.15<br>0.0060 | 0.18<br>0.0070 | 285 (240 — 330)<br>940 (790 — 1000)   |                                 |
| H31 | M                                                                                 | 0.30<br>0.30       | 0.026<br>0.0010 | 0.032<br>0.0013 | 0.040<br>0.0016 | 0.046<br>0.0018 | 0.050<br>0.0020 | 0.065<br>0.0026 | 0.080<br>0.0032 | 0.10<br>0.0040 | 0.13<br>0.0050 | 0.16<br>0.0065 | 300 (290 — 430)<br>980 (960 — 1400)   | Hard                            |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH112 Copy milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |        |        |        |        |        |        |        |        |        | v <sub>c</sub>     |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|
|     |                                                                                   |                    |                    | 2              | 2.5    | 3      | 3.5    | 4      | 5      | 6      | 8      | 10     | 12     |                    |
| K1  | E                                                                                 | 0.250              | 0.15               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 315 (310 — 450)    |
|     |                                                                                   | 0,250              | 0,15               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 1025 (1100 — 1400) |
| K2  | E                                                                                 | 0.250              | 0.15               | 0.028          | 0.036  | 0.044  | 0.050  | 0.060  | 0.070  | 0.085  | 0.12   | 0.14   | 0.17   | 280 (270 — 390)    |
|     |                                                                                   | 0,250              | 0,15               | 0,0011         | 0,0014 | 0,0017 | 0,0020 | 0,0024 | 0,0028 | 0,0034 | 0,0048 | 0,0055 | 0,0065 | 920 (890 — 1200)   |
| K3  | E                                                                                 | 0.250              | 0.15               | 0.028          | 0.036  | 0.044  | 0.050  | 0.060  | 0.070  | 0.085  | 0.12   | 0.14   | 0.17   | 235 (230 — 330)    |
|     |                                                                                   | 0,250              | 0,15               | 0,0011         | 0,0014 | 0,0017 | 0,0020 | 0,0024 | 0,0028 | 0,0034 | 0,0048 | 0,0055 | 0,0065 | 770 (760 — 1000)   |
| K4  | E                                                                                 | 0.250              | 0.15               | 0.028          | 0.036  | 0.044  | 0.050  | 0.060  | 0.070  | 0.085  | 0.12   | 0.14   | 0.17   | 225 (220 — 320)    |
|     |                                                                                   | 0,250              | 0,15               | 0,0011         | 0,0014 | 0,0017 | 0,0020 | 0,0024 | 0,0028 | 0,0034 | 0,0048 | 0,0055 | 0,0065 | 740 (730 — 1000)   |
| K5  | E                                                                                 | 0.160              | 0.15               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 280 (250 — 410)    |
|     |                                                                                   | 0,160              | 0,15               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 920 (830 — 1300)   |
| K6  | E                                                                                 | 0.160              | 0.15               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 415 (370 — 610)    |
|     |                                                                                   | 0,160              | 0,15               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 1350 (1300 — 2000) |
| K7  | E                                                                                 | 0.250              | 0.10               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 420 (350 — 490)    |
|     |                                                                                   | 0,250              | 0,10               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 1375 (1200 — 1600) |
| H3  | M                                                                                 | 0.120              | 0.040              | 0.028          | 0.036  | 0.042  | 0.048  | 0.055  | 0.070  | 0.085  | 0.11   | 0.14   | 0.17   | 110 (100 — 160)    |
|     |                                                                                   | 0,120              | 0,040              | 0,0011         | 0,0014 | 0,0017 | 0,0019 | 0,0022 | 0,0028 | 0,0034 | 0,0044 | 0,0055 | 0,0065 | 360 (330 — 520)    |
| H5  | M                                                                                 | 0.250              | 0.10               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 175 (150 — 200)    |
|     |                                                                                   | 0,250              | 0,10               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 570 (500 — 650)    |
| H7  | M                                                                                 | 0.120              | 0.040              | 0.028          | 0.036  | 0.042  | 0.048  | 0.055  | 0.070  | 0.085  | 0.11   | 0.14   | 0.17   | 110 (100 — 160)    |
|     |                                                                                   | 0,120              | 0,040              | 0,0011         | 0,0014 | 0,0017 | 0,0019 | 0,0022 | 0,0028 | 0,0034 | 0,0044 | 0,0055 | 0,0065 | 360 (330 — 520)    |
| H8  | M                                                                                 | 0.250              | 0.10               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 175 (150 — 200)    |
|     |                                                                                   | 0,250              | 0,10               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 570 (500 — 650)    |
| H11 | M                                                                                 | 0.250              | 0.10               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 225 (190 — 260)    |
|     |                                                                                   | 0,250              | 0,10               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 740 (630 — 850)    |
| H12 | M                                                                                 | 0.250              | 0.10               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 205 (170 — 240)    |
|     |                                                                                   | 0,250              | 0,10               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 670 (560 — 780)    |
| H21 | M                                                                                 | 0.250              | 0.10               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 175 (150 — 200)    |
|     |                                                                                   | 0,250              | 0,10               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 570 (500 — 650)    |
| H31 | M                                                                                 | 0.200              | 0.10               | 0.026          | 0.032  | 0.040  | 0.046  | 0.050  | 0.065  | 0.080  | 0.10   | 0.13   | 0.16   | 200 (200 — 280)    |
|     |                                                                                   | 0,200              | 0,10               | 0,0010         | 0,0013 | 0,0016 | 0,0018 | 0,0020 | 0,0026 | 0,0032 | 0,0040 | 0,0050 | 0,0065 | 660 (660 — 910)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

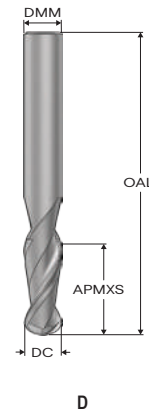
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

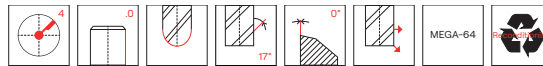
## JH150

High speed – Hardened steel – Ball nose – 4 Flutes – Cylindrical



D

- Tolerances:
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,01 mm
- Regrind possible



| Designation    | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-------------|----------------|
| 150060-MEGA-64 | 00019198    | 2            | D          | 6,0  | 6,0  | 6,0   | 80,0  | 3,0 | 4     | Cylindrical | ■              |
| 150080-MEGA-64 | 00019208    | 2            | D          | 8,0  | 8,0  | 8,0   | 85,0  | 4,0 | 4     | Cylindrical | ■              |
| 150100-MEGA-64 | 00019219    | 2            | D          | 10,0 | 10,0 | 10,0  | 100,0 | 5,0 | 4     | Cylindrical | ■              |
| 150120-MEGA-64 | 00019254    | 2            | D          | 12,0 | 12,0 | 12,0  | 100,0 | 6,0 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH150 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$       | $f_z$           |                |                |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|------------------|----------------|-----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                  |                | 6               | 8              | 10             | 12             |                                       |
| K1  | A                                                                                 | 0.300<br>0,300   | 0.15<br>0,15   | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 290 (310 — 370)<br>950 (1100 — 1200)  |
| K2  | A                                                                                 | 0.300<br>0,300   | 0.15<br>0,15   | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 250 (270 — 320)<br>820 (890 — 1000)   |
| K3  | A                                                                                 | 0.300<br>0,300   | 0.15<br>0,15   | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 210 (230 — 270)<br>690 (760 — 880)    |
| K5  | A                                                                                 | 0.200<br>0,200   | 0.15<br>0,15   | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 255 (270 — 330)<br>840 (890 — 1000)   |
| K6  | A                                                                                 | 0.200<br>0,200   | 0.15<br>0,15   | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 375 (390 — 500)<br>1225 (1300 — 1600) |
| K7  | A                                                                                 | 0.200<br>0,200   | 0.15<br>0,15   | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 325 (340 — 430)<br>1075 (1200 — 1400) |
| H3  | M                                                                                 | 0.0500<br>0,0500 | 0.020<br>0,020 | 0.085<br>0,0034 | 0.11<br>0,0044 | 0.14<br>0,0055 | 0.17<br>0,0065 | 85 (88 — 120)<br>280 (290 — 390)      |
| H5  | M                                                                                 | 0.200<br>0,200   | 0.060<br>0,060 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 180 (160 — 200)<br>590 (530 — 650)    |
| H7  | M                                                                                 | 0.0500<br>0,0500 | 0.020<br>0,020 | 0.085<br>0,0034 | 0.11<br>0,0044 | 0.14<br>0,0055 | 0.17<br>0,0065 | 85 (88 — 120)<br>280 (290 — 390)      |
| H8  | M                                                                                 | 0.200<br>0,200   | 0.060<br>0,060 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 180 (160 — 200)<br>590 (530 — 650)    |
| H11 | M                                                                                 | 0.200<br>0,200   | 0.060<br>0,060 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 230 (210 — 250)<br>750 (690 — 820)    |
| H12 | M                                                                                 | 0.200<br>0,200   | 0.060<br>0,060 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 210 (190 — 230)<br>690 (630 — 750)    |
| H21 | M                                                                                 | 0.200<br>0,200   | 0.060<br>0,060 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 180 (160 — 200)<br>590 (530 — 650)    |
| H31 | M                                                                                 | 0.150<br>0,150   | 0.060<br>0,060 | 0.090<br>0,0036 | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.18<br>0,0070 | 125 (130 — 180)<br>410 (430 — 590)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

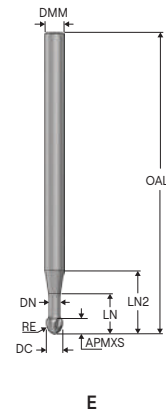
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

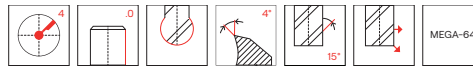
## JH160

High speed – Hardened steel – Ball nose – 4 Flutes – Cylindrical



E

- Tolerances:
- DMM= h5
- DC= 0,02/-0,06 mm
- SA=250°



| Designation    | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN  | RE  | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------|------|-------|-------|------|-----|-----|-------|-------------|----------------|
| 160030-MEGA-64 | 00040365    | 2            | E          | mm   | mm   | mm    | mm    | mm   | mm  | mm  | mm    | mm          | mm             |
| 160040-MEGA-64 | 00040366    | 2            | E          | 3,0  | 3,0  | 2,3   | 60,0  | 4,5  | 1,8 | 1,5 | 4     | Cylindrical | ■              |
| 160050-MEGA-64 | 00040367    | 2            | E          | 4,0  | 4,0  | 3,1   | 60,0  | 5,6  | 2,4 | 2,0 | 4     | Cylindrical | ■              |
| 160060-MEGA-64 | 00040368    | 2            | E          | 5,0  | 5,0  | 3,9   | 70,0  | 6,4  | 3,0 | 2,5 | 4     | Cylindrical | ■              |
| 160080-MEGA-64 | 00040369    | 2            | E          | 6,0  | 6,0  | 4,7   | 80,0  | 9,7  | 3,6 | 3,0 | 4     | Cylindrical | ■              |
| 160100-MEGA-64 | 00040370    | 2            | E          | 8,0  | 8,0  | 6,2   | 85,0  | 11,2 | 4,8 | 4,0 | 4     | Cylindrical | ■              |
| 160120-MEGA-64 | 00040371    | 2            | E          | 10,0 | 10,0 | 7,8   | 100,0 | 15,6 | 6,0 | 5,0 | 4     | Cylindrical | ■              |
| 160120-MEGA-64 | 00040371    | 2            | E          | 12,0 | 12,0 | 9,4   | 125,0 | 17,2 | 7,2 | 6,0 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JH160 Copy milling finishing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 |                |                |                | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                    |                    | 3               | 4               | 5               | 6               | 8              | 10             | 12             |                                       |
| P1  | M/E/A                                                                             | 0.0200<br>0,0200   | 0.024<br>0,024     | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 550 (450 — 700)<br>1800 (1500 — 2200) |
| P2  | M/E/A                                                                             | 0.0200<br>0,0200   | 0.024<br>0,024     | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 530 (440 — 680)<br>1750 (1500 — 2200) |
| P3  | M/E/A                                                                             | 0.0200<br>0,0200   | 0.024<br>0,024     | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 460 (380 — 590)<br>1500 (1300 — 1900) |
| P4  | M/E/A                                                                             | 0.0200<br>0,0200   | 0.024<br>0,024     | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 405 (340 — 520)<br>1325 (1200 — 1700) |
| P5  | M/E/A                                                                             | 0.0200<br>0,0200   | 0.024<br>0,024     | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 385 (320 — 490)<br>1275 (1100 — 1600) |
| P6  | M/E/A                                                                             | 0.0200<br>0,0200   | 0.024<br>0,024     | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 430 (360 — 560)<br>1400 (1200 — 1800) |
| P7  | M/E/A                                                                             | 0.0200<br>0,0200   | 0.024<br>0,024     | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 410 (340 — 520)<br>1350 (1200 — 1700) |
| P8  | M/E/A                                                                             | 0.0200<br>0,0200   | 0.024<br>0,024     | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 385 (320 — 490)<br>1275 (1100 — 1600) |
| P11 | M/E/A                                                                             | 0.0200<br>0,0200   | 0.024<br>0,024     | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 395 (330 — 510)<br>1300 (1100 — 1600) |
| P12 | M/E/A                                                                             | 0.0200<br>0,0200   | 0.024<br>0,024     | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 235 (200 — 300)<br>770 (660 — 980)    |
| H3  | M/E/A                                                                             | 0.0100<br>0,0100   | 0.0075<br>0,0075   | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 | 85 (91 — 110)<br>280 (300 — 360)      |
| H5  | M/E/A                                                                             | 0.0100<br>0,0100   | 0.016<br>0,016     | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 | 340 (320 — 360)<br>1125 (1100 — 1100) |
| H7  | M/E/A                                                                             | 0.0100<br>0,0100   | 0.0075<br>0,0075   | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 | 85 (91 — 110)<br>280 (300 — 360)      |
| H8  | M/E/A                                                                             | 0.0100<br>0,0100   | 0.016<br>0,016     | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 | 340 (320 — 360)<br>1125 (1100 — 1100) |
| H11 | M/E/A                                                                             | 0.0100<br>0,0100   | 0.016<br>0,016     | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 | 430 (400 — 460)<br>1400 (1400 — 1500) |
| H12 | M/E/A                                                                             | 0.0200<br>0,0200   | 0.024<br>0,024     | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 355 (340 — 380)<br>1175 (1200 — 1200) |
| H21 | M/E/A                                                                             | 0.0100<br>0,0100   | 0.016<br>0,016     | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 | 340 (320 — 360)<br>1125 (1100 — 1100) |
| H31 | M/E/A                                                                             | 0.0100<br>0,0100   | 0.016<br>0,016     | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 | 165 (180 — 210)<br>540 (600 — 680)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values



## STAINLESS AND S-MATERIALS

Seco offers a complete range of high performance solid carbide square shoulder end mills, ballnose cutters and finish end mills for high productivity in stainless steel and ISO S-materials.

- JS754, JS755, JS720, JHP751, JHP760, JHP770, JHP780, JHP794, JCG790, JH770, JH740, JH710, JH790, JH730, JHP994, SHF712, SME714, SME716 and JCO710 for chamfer or radius type.
- JS730, JH780, JHB720, JH721, JH722, SMB713, SMB714 and SMB716 for ball-nose type.
- JH724, JH726, JH734, JH736, JH744, JH746 for barrel type.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Tool selection Stainless and S-materials

|                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|---------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                     |                                                                                     |    |    |    |      |    |    |    |
|                     |                                                                                     |    |    |    |      |    |    |    |
| Name                |                                                                                     | JS754                                                                               | JS755                                                                               | JS720                                                                               | JS730                                                                                 | JHP751                                                                                | JHP760                                                                                | JHP770                                                                                |
| Page(s)             |                                                                                     | 2, 326                                                                              | 2, 343                                                                              | 2, 354                                                                              | 2, 374                                                                                | 2, 378                                                                                | 2, 381                                                                                | 2, 385                                                                                |
| Family name         |                                                                                     | SOLID <sup>2</sup>                                                                  | SOLID <sup>2</sup>                                                                  | SOLID <sup>2</sup>                                                                  | SOLID <sup>2</sup>                                                                    | HPM                                                                                   | HPM                                                                                   | HPM                                                                                   |
| Type of mill        |                                                                                     |    |    |    |      |    |    |    |
| Shank               | Cylindrical                                                                         | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                     | ■                                                                                     | ■                                                                                     | ■                                                                                     |
|                     | Weldon                                                                              | ■                                                                                   | ■                                                                                   | ■                                                                                   | □                                                                                     | ■                                                                                     | ■                                                                                     | ■                                                                                     |
|                     | SafeLock                                                                            | □                                                                                   | □                                                                                   | □                                                                                   | □                                                                                     |                                                                                       |                                                                                       | □                                                                                     |
| Number of Flutes    |                                                                                     | 4                                                                                   | 5                                                                                   | 6-9                                                                                 | 6                                                                                     | 2-4                                                                                   | 2,3,4                                                                                 | 4-5                                                                                   |
| CSP                 |                                                                                     | ■                                                                                   |                                                                                     |                                                                                     |                                                                                       |                                                                                       | ■                                                                                     | ■                                                                                     |
| Diameter range      | Metric                                                                              | 3-25                                                                                | 6-25                                                                                | 6-25                                                                                | 6-25                                                                                  | 2-20                                                                                  | 4-25                                                                                  | 6-25                                                                                  |
|                     | Inch                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Length availability |                                                                                     | 2,3                                                                                 | 2,3                                                                                 | 2,3                                                                                 | 2,3                                                                                   | 1,2                                                                                   | 2,3                                                                                   | 2                                                                                     |
| Operation           |  |  |  |  |    |  |  |  |
|                     |  |  |  |  |  |  |  |                                                                                       |
|                     |  |  |  |  |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |    |                                                                                       |                                                                                       |                                                                                       |
| SMG                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| M1                  |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     |                                                                                       | ●                                                                                     |                                                                                       |
| M2                  |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     |                                                                                       | ●                                                                                     |                                                                                       |
| M3                  |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     |                                                                                       | ●                                                                                     |                                                                                       |
| M4                  |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     |                                                                                       | ●                                                                                     |                                                                                       |
| M5                  |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     |                                                                                       | ●                                                                                     |                                                                                       |
| S1                  |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |                                                                                       |                                                                                       |
| S2                  |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |                                                                                       |                                                                                       |
| S3                  |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |                                                                                       |                                                                                       |
| S11                 |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |                                                                                       | ●                                                                                     |
| S12                 |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |                                                                                       | ●                                                                                     |
| S13                 |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |                                                                                       | ●                                                                                     |

■ Stock standard □ Weldon available, delivery time is 3 days. □ Safe-Lock available, delivery time is 6 days  
 ● Preferred choice ○ Alternative choice



#### Tool selection Stainless and S-materials

|                     |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|---------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                     |             |    |    |    |    |    |    |    |    |    |
| Name                |             | JHP780                                                                              | JHP794                                                                              | JCG790                                                                              | JH724                                                                               | JH726                                                                               | JH734                                                                                 | JH736                                                                                 | JH744                                                                                 | JH746                                                                                 |
| Page(s)             |             | 2, 392                                                                              | 2, 381                                                                              | 2, 399                                                                              | 431                                                                                 | 431                                                                                 | 2, 405                                                                                | 2, 407                                                                                | 2, 409                                                                                | 2, 411                                                                                |
| Family name         |             | HPM                                                                                 | HPM                                                                                 | Ceramic                                                                             | HSM/<br>TORNADO                                                                     | HSM/<br>TORNADO                                                                     | HSM/<br>TORNADO                                                                       | HSM/<br>TORNADO                                                                       | HSM/<br>TORNADO                                                                       | HSM/<br>TORNADO                                                                       |
| Type of mill        |             |    |    |    |    |    |    |    |    |    |
| Shank               | Cylindrical | ■                                                                                   |                                                                                     | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                     | ■                                                                                     | ■                                                                                     | ■                                                                                     |
|                     | Weldon      | ■                                                                                   | ■                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|                     | Safelock    | □                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Number of Flutes    |             | 4                                                                                   | 4                                                                                   | 5-6                                                                                 | 6                                                                                   | 6                                                                                   | 4                                                                                     | 6                                                                                     | 4                                                                                     | 6                                                                                     |
| CSP                 |             | ■                                                                                   | ■                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       | ■                                                                                     | ■                                                                                     |
| Diameter range      | Metric      | 6-25                                                                                | 6-25                                                                                | 6-25                                                                                | 10                                                                                  | 10                                                                                  | 6-16                                                                                  | 10-16                                                                                 | 4-16                                                                                  | 10-16                                                                                 |
|                     | Inch        |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Length availability |             | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                     | 2                                                                                     | 2,4                                                                                   | 2                                                                                     |
| Operation           |             |  |  |  |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|                     |             |  |  |  |  |  |  |  |  |  |
|                     |             |                                                                                     |                                                                                     |                                                                                     |  |  |  |  |  |  |
| SMG                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| M1                  |             |                                                                                     | ●                                                                                   |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| M2                  |             |                                                                                     | ●                                                                                   |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| M3                  |             |                                                                                     | ●                                                                                   |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| M4                  |             |                                                                                     | ●                                                                                   |                                                                                     | ●                                                                                   | ●                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| M5                  |             |                                                                                     | ●                                                                                   |                                                                                     | ●                                                                                   | ●                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| S1                  |             | ●                                                                                   |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| S2                  |             | ●                                                                                   |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| S3                  |             | ●                                                                                   |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| S11                 |             |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| S12                 |             |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| S13                 |             |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                     |

■ Stock standard □ Weldon available, delivery time is 3 days. □ Safe-Lock available, delivery time is 6 days

● Preferred choice ○ Alternative choice

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Tool selection Stainless and S-materials

|                     |             |    |    |    |    |    |    |    |
|---------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                     |             |    |    |    |    |    |    |    |
| Name                |             | JH770                                                                               | JH740                                                                               | JH710                                                                               | JH790                                                                               | JH730                                                                                 | JHP994                                                                                | JH780                                                                                 |
| Page(s)             |             | 2, 413                                                                              | 2, 415                                                                              | 2, 417                                                                              | 2, 419                                                                              | 2, 421                                                                                | 2, 423                                                                                | 425                                                                                   |
| Family name         |             | HSM/TORNADO                                                                         | HSM/TORNADO                                                                         | HSM/TORNADO                                                                         | HSM/TORNADO                                                                         | HSM/TORNADO                                                                           | HPM                                                                                   | HSM/TORNADO                                                                           |
| Type of mill        |             |    |    |    |    |    |    |    |
| Shank               | Cylindrical |    |    |    |    |    |    |    |
|                     | Weldon      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|                     | SafeLock    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Number of Flutes    |             | 3,4,5,6                                                                             | 4-5                                                                                 | 5                                                                                   | 6                                                                                   | 5,6,7                                                                                 | 4                                                                                     | 4                                                                                     |
| CSP                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Diameter range      | Metric      | 3-10                                                                                | 6-10                                                                                | 6-8                                                                                 | 9,5                                                                                 | 6-10                                                                                  | 6-10                                                                                  | 1,83-4,89                                                                             |
|                     | Inch        |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Length availability |             | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2,3                                                                                 | 2                                                                                     | 3                                                                                     | 2                                                                                     |
| Operation           |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |  |                                                                                       |
|                     |             |  |  |  |  |  |  |                                                                                       |
|                     |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |  |
| SMG                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| M1                  |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| M2                  |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| M3                  |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| M4                  |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| M5                  |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| S1                  |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| S2                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| S3                  |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| S11                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |                                                                                       |
| S12                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| S13                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |

■ Stock standard □ Weldon available, delivery time is 3 days. □ Safe-Lock available, delivery time is 6 days

● Preferred choice ○ Alternative choice

#### Tool selection Stainless and S-materials

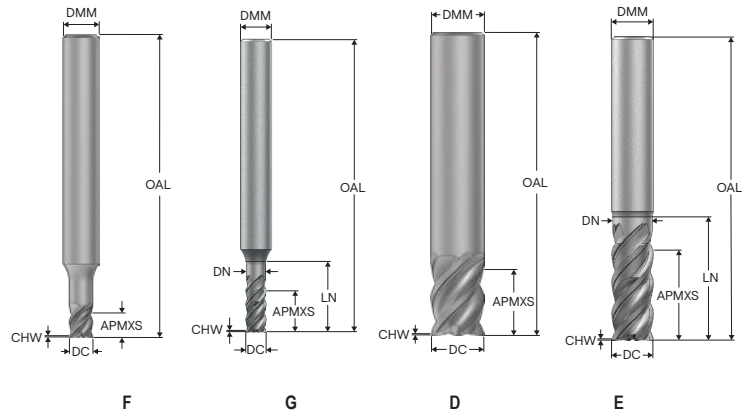
|                     |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
|---------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
|                     |             |    |    |    |    |    |    | Universal                       |
| Name                |             | JHB720                                                                              | JH721                                                                               | JH722                                                                               | SHF712                                                                                | SME714/716                                                                            | SMB713/714/416                                                                        | Steel and cast iron             |
| Page(s)             |             | 427                                                                                 | 429                                                                                 | 431                                                                                 | 504                                                                                   | 504                                                                                   | 261                                                                                   |                                 |
| Family name         |             | HSM/TORNADO                                                                         | HSM/TORNADO                                                                         | HSM/TORNADO                                                                         | HFM                                                                                   | MINI                                                                                  | MINI                                                                                  | Stainless steel and S-materials |
| Type of mill        |             |    |    |    |    |    |    |                                 |
| Shank               | Cylindrical | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                     | ■                                                                                     | ■                                                                                     | Non ferrous                     |
|                     | Weldon      |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
|                     | Safelock    |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
| Number of Flutes    |             | 3                                                                                   | 6                                                                                   | 6                                                                                   | 3-4-5                                                                                 | 3-4-5                                                                                 | 4                                                                                     |                                 |
| CSP                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
| Diameter range      | Metric      | 2-16                                                                                | 6-8                                                                                 | 10                                                                                  | 3-6                                                                                   | 0,5-2                                                                                 | 0,3-3                                                                                 | Hard                            |
|                     | Inch        |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
| Length availability |             | 2                                                                                   | 2                                                                                   | 2                                                                                   | 1,2,3,4                                                                               | 1,2,3,4                                                                               | 2,4                                                                                   |                                 |
| Operation           |             |                                                                                     |                                                                                     |                                                                                     |  |  |  | Plastic and cfrp                |
|                     |             |  |                                                                                     |                                                                                     |  |  |  |                                 |
|                     |             |  |  |  |                                                                                       |  |  |                                 |
| SMG                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       | Graphite                        |
| M1                  |             | ●                                                                                   |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
| M2                  |             | ●                                                                                   |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
| M3                  |             | ●                                                                                   |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
| M4                  |             | ●                                                                                   |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
| M5                  |             | ●                                                                                   |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
| S1                  |             | ○                                                                                   |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       | X-Heads                         |
| S2                  |             | ○                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     |                                 |
| S3                  |             | ○                                                                                   |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
| S11                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                 |
| S12                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     |                                 |
| S13                 |             | ●                                                                                   |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       | Minimaster                      |

■ Stock standard □ Weldon available, delivery time is 3 days.

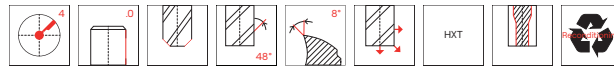
● Preferred choice ○ Alternative choice

### JS754

High performance – Square – ISO– M and ISO– S – 4 Flutes – Cylindrical – Chamfer



—Tolerances:  
—DMM= h5  
—DC= e7  
—Regrind possible if DC ≥ Ø6

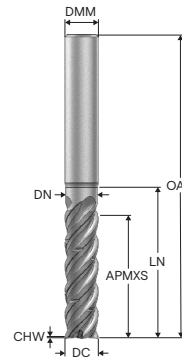


| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | CA° | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-------|-----|-------|-------------|----------------|
| JS754030F1C.0Z4-HXT | 10165556    | 1            | F          | mm   | mm   | mm    | mm    | mm   | mm   | mm    | mm  | mm    | Cylindrical | ■              |
| JS754040F1C.0Z4-HXT | 10164855    | 1            | F          | 3,0  | 6,0  | 4,0   | 50,0  | —    | —    | 0,035 | —   | 4     | Cylindrical | ■              |
| JS754050F1C.0Z4-HXT | 10165557    | 1            | F          | 4,0  | 6,0  | 6,0   | 50,0  | —    | —    | 0,045 | —   | 4     | Cylindrical | ■              |
| JS754060D1C.0Z4-HXT | 10164856    | 1            | D          | 5,0  | 6,0  | 7,0   | 50,0  | —    | —    | 0,055 | —   | 4     | Cylindrical | ■              |
| JS754080D1C.0Z4-HXT | 10164857    | 1            | D          | 6,0  | 6,0  | 8,0   | 50,0  | —    | —    | 0,075 | —   | 4     | Cylindrical | ■              |
| JS754100D1C.0Z4-HXT | 10164858    | 1            | D          | 8,0  | 8,0  | 11,0  | 58,0  | —    | —    | 0,1   | —   | 4     | Cylindrical | ■              |
| JS754120D1C.0Z4-HXT | 10164859    | 1            | D          | 10,0 | 10,0 | 13,0  | 58,0  | —    | —    | 0,125 | —   | 4     | Cylindrical | ■              |
| JS754160D1C.0Z4-HXT | 10164860    | 1            | D          | 12,0 | 12,0 | 15,0  | 67,0  | —    | —    | 0,15  | —   | 4     | Cylindrical | ■              |
| JS754030G2C.0Z4-HXT | 03186807    | 2            | G          | 16,0 | 16,0 | 19,0  | 73,0  | —    | —    | 0,2   | —   | 4     | Cylindrical | ■              |
| JS754040G2C.0Z4-HXT | 03186808    | 2            | G          | 3,0  | 6,0  | 6,0   | 57,0  | 10,0 | 2,85 | 0,035 | 7,0 | 4     | Cylindrical | ■              |
| JS754050G2C.0Z4-HXT | 03186809    | 2            | G          | 4,0  | 6,0  | 8,0   | 57,0  | 13,0 | 3,8  | 0,045 | 4,0 | 4     | Cylindrical | ■              |
| JS754060E2C.0Z4-HXT | 03186810    | 2            | E          | 5,0  | 6,0  | 10,0  | 57,0  | 16,0 | 4,75 | 0,055 | 2,0 | 4     | Cylindrical | ■              |
| JS754080E2C.0Z4-HXT | 03186811    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,075 | —   | 4     | Cylindrical | ■              |
| JS754100E2C.0Z4-HXT | 03186812    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,1   | —   | 4     | Cylindrical | ■              |
| JS754120E2C.0Z4-HXT | 03186813    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,125 | —   | 4     | Cylindrical | ■              |
| JS754160E2C.0Z4-HXT | 03186814    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,15  | —   | 4     | Cylindrical | ■              |
| JS754200E2C.0Z4-HXT | 03186815    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,2   | —   | 4     | Cylindrical | ■              |
| JS754060E3C.0Z4-HXT | 03186823    | 3            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,25  | —   | 4     | Cylindrical | ■              |
| JS754080E3C.0Z4-HXT | 03186824    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,075 | —   | 4     | Cylindrical | ■              |
| JS754100E3C.0Z4-HXT | 03186825    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,1   | —   | 4     | Cylindrical | ■              |
| JS754120E3C.0Z4-HXT | 03186826    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,125 | —   | 4     | Cylindrical | ■              |
| JS754160E3C.0Z4-HXT | 03186827    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,15  | —   | 4     | Cylindrical | ■              |
| JS754200E3C.0Z4-HXT | 03186828    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,2   | —   | 4     | Cylindrical | ■              |
| JS754250E3C.0Z4-HXT | 03186829    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,25  | —   | 4     | Cylindrical | ■              |
| JS754250E3C.0Z4-HXT | 03186829    | 3            | E          | 25,0 | 25,0 | 85,0  | 153,0 | 94,0 | 23,8 | 0,3   | —   | 4     | Cylindrical | ■              |

■ Stocked standard.

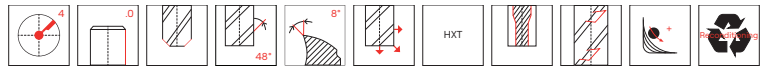
## JS754

High performance – Square – ISO– M and ISO– S – 4 Flutes – Cylindrical – Chamfer



E

- Tolerances:
- DMM= h5
- DC= e7
- Regrind possible



| Designation          | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|----------------|------|------|-------|-------|------|------|-------|-------|-------------|----------------|
| JS754100E2C.0Z4C-HXT | 03186817    | 2            | E          | ■              | mm   | mm   | mm    | mm    | mm   | mm   | mm    |       |             |                |
| JS754120E2C.0Z4C-HXT | 03186818    | 2            | E          | ■              | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,125 | 4     | Cylindrical | ■              |
| JS754060E3C.0Z4C-HXT | 03200550    | 3            | E          | ■              | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,15  | 4     | Cylindrical | ■              |
| JS754060E3C.0Z4C-HXT | 03200550    | 3            | E          | ■              | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,075 | 4     | Cylindrical | ■              |
| JS754080E3C.0Z4C-HXT | 03200551    | 3            | E          | ■              | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,1   | 4     | Cylindrical | ■              |
| JS754100E3C.0Z4C-HXT | 03186830    | 3            | E          | ■              | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,125 | 4     | Cylindrical | ■              |
| JS754120E3C.0Z4C-HXT | 03186831    | 3            | E          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,15  | 4     | Cylindrical | ■              |
| JS754160E3C.0Z4C-HXT | 03186832    | 3            | E          | ■              | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,2   | 4     | Cylindrical | ■              |
| JS754200E3C.0Z4C-HXT | 03186833    | 3            | E          | ■              | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,25  | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

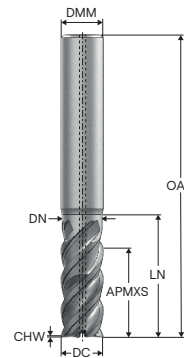
Graphite

X-Heads

Minimaster

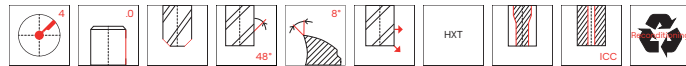
### JS754

High performance – Square – ISO– M and ISO– S – 4 Flutes – Cylindrical – Chamfer



E

—Tolerances:  
—DMM= h5  
—DC= e7  
—Regrind possible



| Designation          | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|-----|------|------|-------|-------|------|------|-------|-------|-------------|----------------|
|                      |             |              |            |     | mm   | mm   | mm    | mm    | mm   | mm   | mm    |       |             |                |
| JS754060E2C.0Z4A-HXT | 03186834    | 2            | E          | ■   | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,075 | 4     | Cylindrical | ■              |
| JS754080E2C.0Z4A-HXT | 03186835    | 2            | E          | ■   | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,1   | 4     | Cylindrical | ■              |
| JS754100E2C.0Z4A-HXT | 03186836    | 2            | E          | ■   | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,125 | 4     | Cylindrical | ■              |
| JS754120E2C.0Z4A-HXT | 03186837    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,15  | 4     | Cylindrical | ■              |
| JS754160E2C.0Z4A-HXT | 03186838    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,2   | 4     | Cylindrical | ■              |
| JS754200E2C.0Z4A-HXT | 03186839    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,25  | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

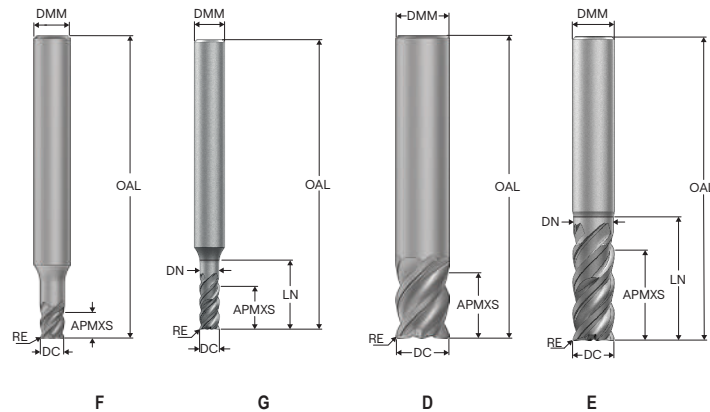
Graphite

X-Heads

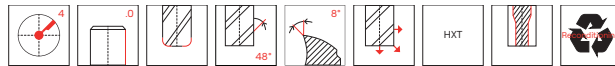
Minimaster

## JS754

High performance – Square – ISO– M and ISO– S – 4 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible if DC is ≥Ø6



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | LN   | DN   | RE  | CA° | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|------|------|------|-----|-----|-------|-------------|----------------|
|                        |             |              |            | mm   | mm   | mm    | mm   | mm   | mm   | mm  |     |       |             |                |
| JS754030F1R020.0Z4-HXT | 10165558    | 1            | F          | 3,0  | 6,0  | 4,0   | 50,0 | —    | —    | 0,2 | —   | 4     | Cylindrical | ■              |
| JS754040F1R020.0Z4-HXT | 10164867    | 1            | F          | 4,0  | 6,0  | 6,0   | 50,0 | —    | —    | 0,2 | —   | 4     | Cylindrical | ■              |
| JS754050F1R020.0Z4-HXT | 10165559    | 1            | F          | 5,0  | 6,0  | 7,0   | 50,0 | —    | —    | 0,2 | —   | 4     | Cylindrical | ■              |
| JS754060D1R020.0Z4-HXT | 10164868    | 1            | D          | 6,0  | 6,0  | 8,0   | 50,0 | —    | —    | 0,2 | —   | 4     | Cylindrical | ■              |
| JS754060D1R050.0Z4-HXT | 10164869    | 1            | D          | 6,0  | 6,0  | 8,0   | 50,0 | —    | —    | 0,5 | —   | 4     | Cylindrical | ■              |
| JS754080D1R050.0Z4-HXT | 10164871    | 1            | D          | 8,0  | 8,0  | 11,0  | 58,0 | —    | —    | 0,5 | —   | 4     | Cylindrical | ■              |
| JS754100D1R050.0Z4-HXT | 10164873    | 1            | D          | 10,0 | 10,0 | 13,0  | 58,0 | —    | —    | 0,5 | —   | 4     | Cylindrical | ■              |
| JS754100D1R100.0Z4-HXT | 10164874    | 1            | D          | 10,0 | 10,0 | 13,0  | 58,0 | —    | —    | 1,0 | —   | 4     | Cylindrical | ■              |
| JS754120D1R050.0Z4-HXT | 10164875    | 1            | D          | 12,0 | 12,0 | 15,0  | 67,0 | —    | —    | 0,5 | —   | 4     | Cylindrical | ■              |
| JS754120D1R100.0Z4-HXT | 10164876    | 1            | D          | 12,0 | 12,0 | 15,0  | 67,0 | —    | —    | 1,0 | —   | 4     | Cylindrical | ■              |
| JS754160D1R050.0Z4-HXT | 10164877    | 1            | D          | 16,0 | 16,0 | 19,0  | 73,0 | —    | —    | 0,5 | —   | 4     | Cylindrical | ■              |
| JS754160D1R100.0Z4-HXT | 10164878    | 1            | D          | 16,0 | 16,0 | 19,0  | 73,0 | —    | —    | 1,0 | —   | 4     | Cylindrical | ■              |
| JS754030G2R020.0Z4-HXT | 03186840    | 2            | G          | 3,0  | 6,0  | 6,0   | 57,0 | 10,0 | 2,85 | 0,2 | 7,0 | 4     | Cylindrical | ■              |
| JS754040G2R020.0Z4-HXT | 03186841    | 2            | G          | 4,0  | 6,0  | 8,0   | 57,0 | 13,0 | 3,8  | 0,2 | 4,0 | 4     | Cylindrical | ■              |
| JS754050G2R020.0Z4-HXT | 03186842    | 2            | G          | 5,0  | 6,0  | 10,0  | 57,0 | 16,0 | 4,75 | 0,2 | 2,0 | 4     | Cylindrical | ■              |
| JS754060E2R020.0Z4-HXT | 03186843    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0 | 18,0 | 5,7  | 0,2 | —   | 4     | Cylindrical | ■              |
| JS754060E2R050.0Z4-HXT | 03186844    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0 | 18,0 | 5,7  | 0,5 | —   | 4     | Cylindrical | ■              |
| JS754060E2R100.0Z4-HXT | 03186845    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0 | 18,0 | 5,7  | 1,0 | —   | 4     | Cylindrical | ■              |
| JS754080E2R050.0Z4-HXT | 03186846    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0 | 25,0 | 7,6  | 0,5 | —   | 4     | Cylindrical | ■              |
| JS754080E2R100.0Z4-HXT | 03186847    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0 | 25,0 | 7,6  | 1,0 | —   | 4     | Cylindrical | ■              |
| JS754100E2R050.0Z4-HXT | 03186848    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0 | 29,0 | 9,5  | 0,5 | —   | 4     | Cylindrical | ■              |
| JS754100E2R100.0Z4-HXT | 03186849    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0 | 29,0 | 9,5  | 1,0 | —   | 4     | Cylindrical | ■              |
| JS754100E2R150.0Z4-HXT | 03200552    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0 | 29,0 | 9,5  | 1,5 | —   | 4     | Cylindrical | ■              |
| JS754100E2R200.0Z4-HXT | 03186850    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0 | 29,0 | 9,5  | 2,0 | —   | 4     | Cylindrical | ■              |
| JS754100E2R300.0Z4-HXT | 03186851    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0 | 29,0 | 9,5  | 3,0 | —   | 4     | Cylindrical | ■              |
| JS754120E2R050.0Z4-HXT | 03186852    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0 | 35,0 | 11,4 | 0,5 | —   | 4     | Cylindrical | ■              |
| JS754120E2R100.0Z4-HXT | 03186853    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0 | 35,0 | 11,4 | 1,0 | —   | 4     | Cylindrical | ■              |
| JS754120E2R150.0Z4-HXT | 03200553    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0 | 35,0 | 11,4 | 1,5 | —   | 4     | Cylindrical | ■              |
| JS754120E2R200.0Z4-HXT | 03186854    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0 | 35,0 | 11,4 | 2,0 | —   | 4     | Cylindrical | ■              |
| JS754120E2R300.0Z4-HXT | 03186855    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0 | 35,0 | 11,4 | 3,0 | —   | 4     | Cylindrical | ■              |
| JS754160E2R050.0Z4-HXT | 03186856    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0 | 42,0 | 15,2 | 0,5 | —   | 4     | Cylindrical | ■              |
| JS754160E2R100.0Z4-HXT | 03186857    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0 | 42,0 | 15,2 | 1,0 | —   | 4     | Cylindrical | ■              |
| JS754160E2R200.0Z4-HXT | 03186858    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0 | 42,0 | 15,2 | 2,0 | —   | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

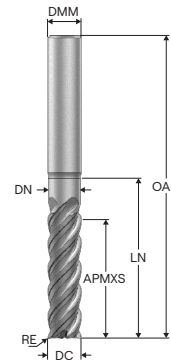
Graphite

X-Heads

Minimaster

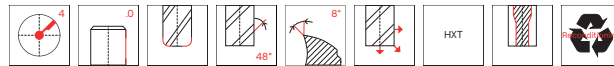
### JS754

High performance –Square – ISO– M and ISO– S – 4 Flutes – Cylindrical – Corner radius



E

—Tolerances:  
—DMM= h5  
—DC= e7  
—RE= ±0,02 mm  
—Regind possible



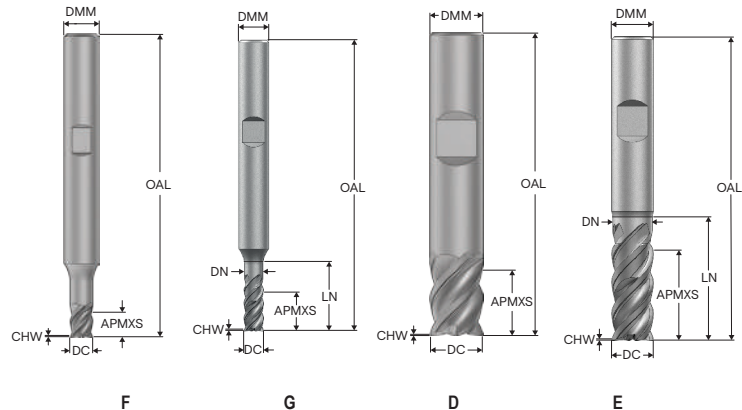
| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
| JS754160E2R300.0Z4-HXT | 03186859    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 3,0 | 4     | Cylindrical | ■              |
| JS754160E2R400.0Z4-HXT | 03186860    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 4,0 | 4     | Cylindrical | ■              |
| JS754160E2R600.0Z4-HXT | 03186861    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 6,0 | 4     | Cylindrical | ■              |
| JS754200E2R050.0Z4-HXT | 03186862    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,5 | 4     | Cylindrical | ■              |
| JS754200E2R100.0Z4-HXT | 03186863    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 1,0 | 4     | Cylindrical | ■              |
| JS754200E2R200.0Z4-HXT | 03186864    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 2,0 | 4     | Cylindrical | ■              |
| JS754200E2R300.0Z4-HXT | 03186865    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 3,0 | 4     | Cylindrical | ■              |
| JS754200E2R600.0Z4-HXT | 03186867    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 6,0 | 4     | Cylindrical | ■              |
| JS754060E3R020.0Z4-HXT | 03186873    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,2 | 4     | Cylindrical | ■              |
| JS754060E3R050.0Z4-HXT | 03186874    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,5 | 4     | Cylindrical | ■              |
| JS754060E3R100.0Z4-HXT | 03186875    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 1,0 | 4     | Cylindrical | ■              |
| JS754080E3R050.0Z4-HXT | 03186876    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,5 | 4     | Cylindrical | ■              |
| JS754080E3R100.0Z4-HXT | 03186877    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 1,0 | 4     | Cylindrical | ■              |
| JS754100E3R050.0Z4-HXT | 03186878    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,5 | 4     | Cylindrical | ■              |
| JS754100E3R100.0Z4-HXT | 03186879    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 1,0 | 4     | Cylindrical | ■              |
| JS754100E3R200.0Z4-HXT | 03186880    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 2,0 | 4     | Cylindrical | ■              |
| JS754100E3R300.0Z4-HXT | 03186881    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 3,0 | 4     | Cylindrical | ■              |
| JS754120E3R050.0Z4-HXT | 03186882    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,5 | 4     | Cylindrical | ■              |
| JS754120E3R100.0Z4-HXT | 03186883    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 1,0 | 4     | Cylindrical | ■              |
| JS754120E3R200.0Z4-HXT | 03186884    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 2,0 | 4     | Cylindrical | ■              |
| JS754120E3R300.0Z4-HXT | 03186885    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 3,0 | 4     | Cylindrical | ■              |
| JS754160E3R050.0Z4-HXT | 03186886    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,5 | 4     | Cylindrical | ■              |
| JS754160E3R100.0Z4-HXT | 03186887    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 1,0 | 4     | Cylindrical | ■              |
| JS754160E3R200.0Z4-HXT | 03186888    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 2,0 | 4     | Cylindrical | ■              |
| JS754160E3R300.0Z4-HXT | 03186889    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 3,0 | 4     | Cylindrical | ■              |
| JS754160E3R400.0Z4-HXT | 03186890    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 4,0 | 4     | Cylindrical | ■              |
| JS754160E3R600.0Z4-HXT | 03186891    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 6,0 | 4     | Cylindrical | ■              |
| JS754200E3R050.0Z4-HXT | 03186892    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,5 | 4     | Cylindrical | ■              |
| JS754200E3R100.0Z4-HXT | 03186893    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 1,0 | 4     | Cylindrical | ■              |
| JS754200E3R200.0Z4-HXT | 03186894    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 2,0 | 4     | Cylindrical | ■              |
| JS754200E3R300.0Z4-HXT | 03186895    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 3,0 | 4     | Cylindrical | ■              |
| JS754200E3R400.0Z4-HXT | 03186896    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 4,0 | 4     | Cylindrical | ■              |
| JS754200E3R600.0Z4-HXT | 03186897    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 6,0 | 4     | Cylindrical | ■              |

■ Stocked standard.

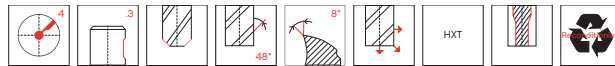


## JS754

High performance – Square – ISO– M and ISO– S – 4 Flutes – Weldon – Chamfer



- Tolerances:
- DMM= h5
- DC= e7
- Regrind possible if DC is  $\geq \phi 6$



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | CA° | PCEDC | Shank  | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-------|-----|-------|--------|----------------|
| JS754030F1C.3Z4-HXT | 10165658    | 1            | F          | mm   | mm   | mm    | mm    | mm   | mm   | mm    |     |       |        |                |
| JS754040F1C.3Z4-HXT | 10164861    | 1            | F          | 3,0  | 6,0  | 4,0   | 50,0  | –    | –    | 0,035 | –   | 4     | Weldon | □              |
| JS754050F1C.3Z4-HXT | 10165660    | 1            | F          | 4,0  | 6,0  | 6,0   | 50,0  | –    | –    | 0,045 | –   | 4     | Weldon | □              |
| JS754060D1C.3Z4-HXT | 10164862    | 1            | D          | 5,0  | 6,0  | 7,0   | 50,0  | –    | –    | 0,055 | –   | 4     | Weldon | □              |
| JS754080D1C.3Z4-HXT | 10164863    | 1            | D          | 6,0  | 6,0  | 8,0   | 50,0  | –    | –    | 0,075 | –   | 4     | Weldon | □              |
| JS754100D1C.3Z4-HXT | 10164864    | 1            | D          | 8,0  | 8,0  | 11,0  | 58,0  | –    | –    | 0,1   | –   | 4     | Weldon | □              |
| JS754120D1C.3Z4-HXT | 10164865    | 1            | D          | 10,0 | 10,0 | 13,0  | 58,0  | –    | –    | 0,125 | –   | 4     | Weldon | □              |
| JS754160D1C.3Z4-HXT | 10164866    | 1            | D          | 12,0 | 12,0 | 15,0  | 67,0  | –    | –    | 0,15  | –   | 4     | Weldon | □              |
| JS754160D1C.3Z4-HXT | 10164866    | 1            | D          | 16,0 | 16,0 | 19,0  | 73,0  | –    | –    | 0,2   | –   | 4     | Weldon | □              |
| JS754030G2C.3Z4-HXT | 03186975    | 2            | G          | 3,0  | 6,0  | 6,0   | 57,0  | 10,0 | 2,85 | 0,035 | 7,0 | 4     | Weldon | □              |
| JS754040G2C.3Z4-HXT | 03186976    | 2            | G          | 4,0  | 6,0  | 8,0   | 57,0  | 13,0 | 3,8  | 0,045 | 4,0 | 4     | Weldon | □              |
| JS754050G2C.3Z4-HXT | 03186977    | 2            | G          | 5,0  | 6,0  | 10,0  | 57,0  | 16,0 | 4,75 | 0,055 | 2,0 | 4     | Weldon | □              |
| JS754060E2C.3Z4-HXT | 03186978    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,075 | –   | 4     | Weldon | ■              |
| JS754080E2C.3Z4-HXT | 03186979    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,1   | –   | 4     | Weldon | ■              |
| JS754100E2C.3Z4-HXT | 03186980    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,125 | –   | 4     | Weldon | ■              |
| JS754120E2C.3Z4-HXT | 03186981    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,15  | –   | 4     | Weldon | ■              |
| JS754160E2C.3Z4-HXT | 03186982    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,2   | –   | 4     | Weldon | ■              |
| JS754200E2C.3Z4-HXT | 03186983    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,25  | –   | 4     | Weldon | ■              |
| JS754060E3C.3Z4-HXT | 03186990    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,075 | –   | 4     | Weldon | ■              |
| JS754080E3C.3Z4-HXT | 03186991    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,1   | –   | 4     | Weldon | ■              |
| JS754100E3C.3Z4-HXT | 03186992    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,125 | –   | 4     | Weldon | ■              |
| JS754120E3C.3Z4-HXT | 03186993    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,15  | –   | 4     | Weldon | ■              |
| JS754160E3C.3Z4-HXT | 03186994    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,2   | –   | 4     | Weldon | ■              |
| JS754200E3C.3Z4-HXT | 03186995    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,25  | –   | 4     | Weldon | ■              |
| JS754250E3C.3Z4-HXT | 03186996    | 3            | E          | 25,0 | 25,0 | 85,0  | 153,0 | 94,0 | 23,8 | 0,3   | –   | 4     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and CFRP

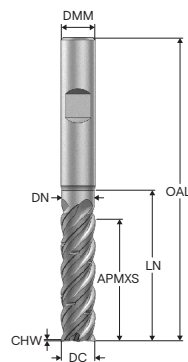
Graphite

X-Heads

Minimaster

JS754

High performance – Square – ISO– M and ISO– S – 4 Flutes – Weldon – Chamfer – Chip splitters



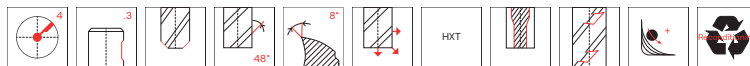
E

—Tolerances:

—DMM= h5

—DC= e7

—Regrind possible

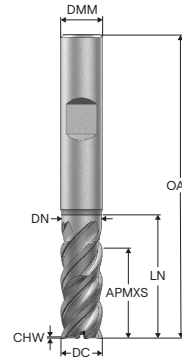


| Designation          | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | PCEDC | Shank  | Stock standard |
|----------------------|-------------|--------------|------------|----------------|------|------|-------|-------|------|------|-------|-------|--------|----------------|
|                      |             |              |            |                | mm   | mm   | mm    | mm    | mm   | mm   | mm    |       |        |                |
| JS754100E2C.3Z4C-HXT | 03186985    | 2            | E          | ■              | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,125 | 4     | Weldon | ■              |
| JS754120E2C.3Z4C-HXT | 03186986    | 2            | E          | ■              | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,15  | 4     | Weldon | ■              |
| JS754060E3C.3Z4C-HXT | 03200562    | 3            | E          | ■              | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,075 | 4     | Weldon | ■              |
| JS754080E3C.3Z4C-HXT | 03200563    | 3            | E          | ■              | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,1   | 4     | Weldon | ■              |
| JS754100E3C.3Z4C-HXT | 03186997    | 3            | E          | ■              | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,125 | 4     | Weldon | ■              |
| JS754120E3C.3Z4C-HXT | 03186998    | 3            | E          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,15  | 4     | Weldon | ■              |
| JS754160E3C.3Z4C-HXT | 03186999    | 3            | E          | ■              | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,2   | 4     | Weldon | ■              |
| JS754200E3C.3Z4C-HXT | 03187000    | 3            | E          | ■              | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,25  | 4     | Weldon | ■              |

■ Stocked standard.

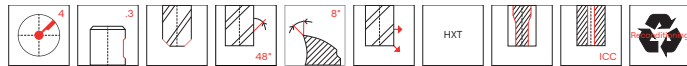
## JS754

High performance – Square – ISO– M and ISO– S – 4 Flutes – Weldon – Chamfer



E

- Tolerances:
- DMM= h5
- DC= e7
- Regrind possible



| Designation          | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | PCEDC | Shank  | Stock standard |
|----------------------|-------------|--------------|------------|-----|------|------|-------|-------|------|------|-------|-------|--------|----------------|
| JS754060E2C.3Z4A-HXT | 03187001    | 2            | E          | ■   | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,075 | 4     | Weldon | ■              |
| JS754080E2C.3Z4A-HXT | 03187002    | 2            | E          | ■   | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,1   | 4     | Weldon | ■              |
| JS754100E2C.3Z4A-HXT | 03187003    | 2            | E          | ■   | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,125 | 4     | Weldon | ■              |
| JS754120E2C.3Z4A-HXT | 03187004    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,15  | 4     | Weldon | ■              |
| JS754160E2C.3Z4A-HXT | 03187005    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,2   | 4     | Weldon | ■              |
| JS754200E2C.3Z4A-HXT | 03187006    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,25  | 4     | Weldon | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

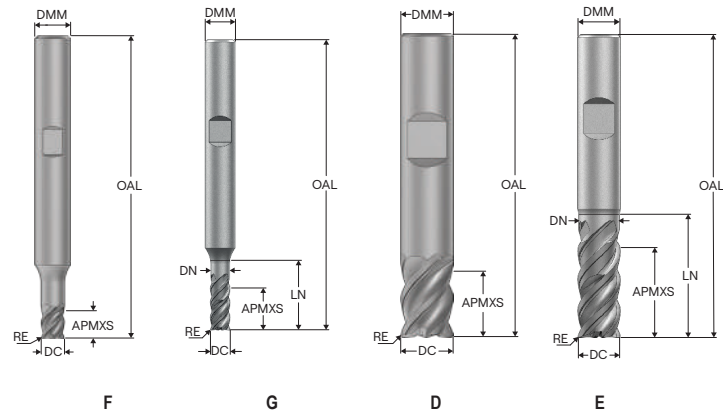
Graphite

X-Heads

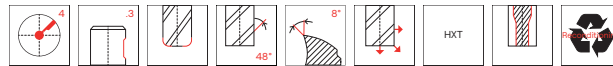
Minimaster

#### JS754

High performance – Square – ISO– M and ISO– S – 4 Flutes – Weldon – Corner radius



—Tolerances:  
—DMM= h5  
—DC= e7  
—RE= ±0,02 mm  
—Regrind possible if DC is ≥Ø6

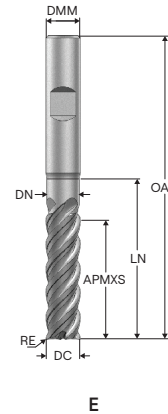


| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | LN   | DN   | RE  | CA° | PCEDC | Shank  | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|------|------|------|-----|-----|-------|--------|----------------|
| JS754030F1R020.3Z4-HXT | 10165560    | 1            | F          | 3,0  | 6,0  | 4,0   | 50,0 | —    | —    | 0,2 | —   | 4     | Weldon | □              |
| JS754040F1R020.3Z4-HXT | 10164879    | 1            | F          | 4,0  | 6,0  | 6,0   | 50,0 | —    | —    | 0,2 | —   | 4     | Weldon | □              |
| JS754050F1R020.3Z4-HXT | 10165561    | 1            | F          | 5,0  | 6,0  | 7,0   | 50,0 | —    | —    | 0,2 | —   | 4     | Weldon | □              |
| JS754060D1R020.3Z4-HXT | 10164880    | 1            | D          | 6,0  | 6,0  | 8,0   | 50,0 | —    | —    | 0,2 | —   | 4     | Weldon | □              |
| JS754060D1R050.3Z4-HXT | 10164881    | 1            | D          | 6,0  | 6,0  | 8,0   | 50,0 | —    | —    | 0,5 | —   | 4     | Weldon | □              |
| JS754080D1R050.3Z4-HXT | 10164883    | 1            | D          | 8,0  | 8,0  | 11,0  | 58,0 | —    | —    | 0,5 | —   | 4     | Weldon | □              |
| JS754100D1R050.3Z4-HXT | 10164885    | 1            | D          | 10,0 | 10,0 | 13,0  | 58,0 | —    | —    | 0,5 | —   | 4     | Weldon | □              |
| JS754100D1R100.3Z4-HXT | 10164886    | 1            | D          | 10,0 | 10,0 | 13,0  | 58,0 | —    | —    | 1,0 | —   | 4     | Weldon | □              |
| JS754120D1R050.3Z4-HXT | 10164887    | 1            | D          | 12,0 | 12,0 | 15,0  | 67,0 | —    | —    | 0,5 | —   | 4     | Weldon | □              |
| JS754120D1R100.3Z4-HXT | 10164888    | 1            | D          | 12,0 | 12,0 | 15,0  | 67,0 | —    | —    | 1,0 | —   | 4     | Weldon | □              |
| JS754160D1R050.3Z4-HXT | 10164889    | 1            | D          | 16,0 | 16,0 | 19,0  | 73,0 | —    | —    | 0,5 | —   | 4     | Weldon | □              |
| JS754160D1R100.3Z4-HXT | 10164890    | 1            | D          | 16,0 | 16,0 | 19,0  | 73,0 | —    | —    | 1,0 | —   | 4     | Weldon | □              |
| JS754030G2R020.3Z4-HXT | 03187007    | 2            | G          | 3,0  | 6,0  | 6,0   | 57,0 | 10,0 | 2,85 | 0,2 | 7,0 | 4     | Weldon | □              |
| JS754040G2R020.3Z4-HXT | 03187008    | 2            | G          | 4,0  | 6,0  | 8,0   | 57,0 | 13,0 | 3,8  | 0,2 | 4,0 | 4     | Weldon | □              |
| JS754050G2R020.3Z4-HXT | 03187009    | 2            | G          | 5,0  | 6,0  | 10,0  | 57,0 | 16,0 | 4,75 | 0,2 | 2,0 | 4     | Weldon | □              |
| JS754060E2R020.3Z4-HXT | 03187010    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0 | 18,0 | 5,7  | 0,2 | —   | 4     | Weldon | ■              |
| JS754060E2R050.3Z4-HXT | 03187011    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0 | 18,0 | 5,7  | 0,5 | —   | 4     | Weldon | ■              |
| JS754060E2R100.3Z4-HXT | 03187012    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0 | 18,0 | 5,7  | 1,0 | —   | 4     | Weldon | ■              |
| JS754080E2R050.3Z4-HXT | 03187013    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0 | 25,0 | 7,6  | 0,5 | —   | 4     | Weldon | ■              |
| JS754080E2R100.3Z4-HXT | 03187014    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0 | 25,0 | 7,6  | 1,0 | —   | 4     | Weldon | ■              |
| JS754100E2R050.3Z4-HXT | 03187015    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0 | 29,0 | 9,5  | 0,5 | —   | 4     | Weldon | ■              |
| JS754100E2R100.3Z4-HXT | 03187016    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0 | 29,0 | 9,5  | 1,0 | —   | 4     | Weldon | ■              |
| JS754100E2R150.3Z4-HXT | 03200564    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0 | 29,0 | 9,5  | 1,5 | —   | 4     | Weldon | ■              |
| JS754100E2R200.3Z4-HXT | 03187017    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0 | 29,0 | 9,5  | 2,0 | —   | 4     | Weldon | ■              |
| JS754100E2R300.3Z4-HXT | 03187018    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0 | 29,0 | 9,5  | 3,0 | —   | 4     | Weldon | ■              |
| JS754120E2R050.3Z4-HXT | 03187019    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0 | 35,0 | 11,4 | 0,5 | —   | 4     | Weldon | ■              |
| JS754120E2R100.3Z4-HXT | 03187020    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0 | 35,0 | 11,4 | 1,0 | —   | 4     | Weldon | ■              |
| JS754120E2R150.3Z4-HXT | 03200565    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0 | 35,0 | 11,4 | 1,5 | —   | 4     | Weldon | ■              |
| JS754120E2R200.3Z4-HXT | 03187021    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0 | 35,0 | 11,4 | 2,0 | —   | 4     | Weldon | ■              |
| JS754120E2R300.3Z4-HXT | 03187022    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0 | 35,0 | 11,4 | 3,0 | —   | 4     | Weldon | ■              |
| JS754160E2R050.3Z4-HXT | 03187023    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0 | 42,0 | 15,2 | 0,5 | —   | 4     | Weldon | ■              |
| JS754160E2R100.3Z4-HXT | 03187024    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0 | 42,0 | 15,2 | 1,0 | —   | 4     | Weldon | ■              |
| JS754160E2R200.3Z4-HXT | 03187025    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0 | 42,0 | 15,2 | 2,0 | —   | 4     | Weldon | ■              |
| JS754160E2R300.3Z4-HXT | 03187026    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0 | 42,0 | 15,2 | 3,0 | —   | 4     | Weldon | ■              |
| JS754160E2R400.3Z4-HXT | 03187027    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0 | 42,0 | 15,2 | 4,0 | —   | 4     | Weldon | ■              |
| JS754160E2R600.3Z4-HXT | 03187028    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0 | 42,0 | 15,2 | 6,0 | —   | 4     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

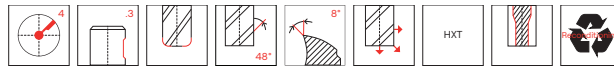
## JS754

High performance – Square – ISO– M and ISO– S – 4 Flutes – Weldon – Corner radius



E

- Tolerances:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank  | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|--------|----------------|
|                        |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |        |                |
| JS754200E2R050.3Z4-HXT | 03187029    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,5 | 4     | Weldon | ■              |
| JS754200E2R100.3Z4-HXT | 03187030    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 1,0 | 4     | Weldon | ■              |
| JS754200E2R200.3Z4-HXT | 03187031    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 2,0 | 4     | Weldon | ■              |
| JS754200E2R300.3Z4-HXT | 03187032    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 3,0 | 4     | Weldon | ■              |
| JS754200E2R600.3Z4-HXT | 03187034    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 6,0 | 4     | Weldon | ■              |
| JS754060E3R020.3Z4-HXT | 03187040    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,2 | 4     | Weldon | □              |
| JS754060E3R050.3Z4-HXT | 03187041    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,5 | 4     | Weldon | □              |
| JS754060E3R100.3Z4-HXT | 03187042    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 1,0 | 4     | Weldon | □              |
| JS754080E3R050.3Z4-HXT | 03187043    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,5 | 4     | Weldon | □              |
| JS754080E3R100.3Z4-HXT | 03187044    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 1,0 | 4     | Weldon | □              |
| JS754100E3R050.3Z4-HXT | 03187045    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,5 | 4     | Weldon | □              |
| JS754100E3R100.3Z4-HXT | 03187046    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 1,0 | 4     | Weldon | □              |
| JS754100E3R200.3Z4-HXT | 03187047    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 2,0 | 4     | Weldon | □              |
| JS754100E3R300.3Z4-HXT | 03187049    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 3,0 | 4     | Weldon | □              |
| JS754120E3R050.3Z4-HXT | 03187050    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,5 | 4     | Weldon | □              |
| JS754120E3R100.3Z4-HXT | 03187051    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 1,0 | 4     | Weldon | □              |
| JS754120E3R200.3Z4-HXT | 03187052    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 2,0 | 4     | Weldon | □              |
| JS754120E3R300.3Z4-HXT | 03187053    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 3,0 | 4     | Weldon | □              |
| JS754160E3R050.3Z4-HXT | 03187054    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,5 | 4     | Weldon | ■              |
| JS754160E3R100.3Z4-HXT | 03187055    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 1,0 | 4     | Weldon | □              |
| JS754160E3R200.3Z4-HXT | 03187056    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 2,0 | 4     | Weldon | □              |
| JS754160E3R300.3Z4-HXT | 03187057    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 3,0 | 4     | Weldon | □              |
| JS754160E3R400.3Z4-HXT | 03187058    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 4,0 | 4     | Weldon | □              |
| JS754160E3R600.3Z4-HXT | 03187059    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 6,0 | 4     | Weldon | □              |
| JS754200E3R050.3Z4-HXT | 03187060    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,5 | 4     | Weldon | □              |
| JS754200E3R100.3Z4-HXT | 03187061    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 1,0 | 4     | Weldon | □              |
| JS754200E3R200.3Z4-HXT | 03187062    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 2,0 | 4     | Weldon | □              |
| JS754200E3R300.3Z4-HXT | 03187063    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 3,0 | 4     | Weldon | □              |
| JS754200E3R400.3Z4-HXT | 03187064    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 4,0 | 4     | Weldon | □              |
| JS754200E3R600.3Z4-HXT | 03187065    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 6,0 | 4     | Weldon | □              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

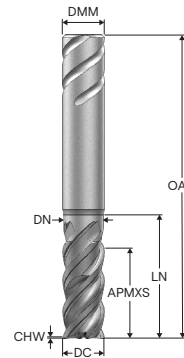
Graphite

X-Heads

Minimaster

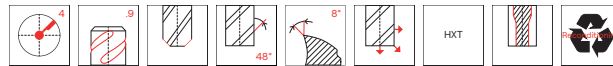
### JS754

High performance – Square – ISO– M and ISO– S – 4 Flutes – Safelock – Chamfer



E

—Tolerances:  
—DMM= h5  
—DC= e7  
—Reground possible

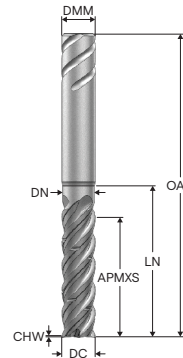


| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | PCEDC | Shank     | Stock standard           |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-------|-------|-----------|--------------------------|
| JS754060E2C.9Z4-HXT | 03187144    | 2            | E          | mm   | mm   | mm    | mm    | mm   | mm   | mm    | mm    | mm        |                          |
| JS754080E2C.9Z4-HXT | 03187145    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,075 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754100E2C.9Z4-HXT | 03187146    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,1   | 4     | Safe-lock | <input type="checkbox"/> |
| JS754120E2C.9Z4-HXT | 03187147    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,125 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754160E2C.9Z4-HXT | 03187148    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,15  | 4     | Safe-lock | <input type="checkbox"/> |
| JS754200E2C.9Z4-HXT | 03187149    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,2   | 4     | Safe-lock | <input type="checkbox"/> |
| JS754250E2C.9Z4-HXT | 03187150    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,25  | 4     | Safe-lock | <input type="checkbox"/> |
| JS754060E3C.9Z4-HXT | 03187153    | 3            | E          | 25,0 | 25,0 | 50,0  | 121,0 | 65,0 | 23,8 | 0,3   | 4     | Safe-lock | <input type="checkbox"/> |
| JS754080E3C.9Z4-HXT | 03187154    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,075 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754100E3C.9Z4-HXT | 03187155    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,1   | 4     | Safe-lock | <input type="checkbox"/> |
| JS754120E3C.9Z4-HXT | 03187156    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,125 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754160E3C.9Z4-HXT | 03187157    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,15  | 4     | Safe-lock | <input type="checkbox"/> |
| JS754200E3C.9Z4-HXT | 03187158    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,2   | 4     | Safe-lock | <input type="checkbox"/> |
| JS754250E3C.9Z4-HXT | 03187159    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,25  | 4     | Safe-lock | <input type="checkbox"/> |
| JS754250E3C.9Z4-HXT | 03187159    | 3            | E          | 25,0 | 25,0 | 85,0  | 153,0 | 94,0 | 23,8 | 0,3   | 4     | Safe-lock | <input type="checkbox"/> |

☐ Safelock available. Delivery time is 6 days.

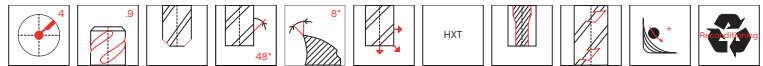
JS754

High performance – Square – ISO– M and ISO– S – 4 Flutes – Safelock – Chamfer



E

- Tolerances:
- DMM= h5
- DC= e7
- Regrind possible



| Designation          | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | PCEDC | Shank     | Stock standard           |
|----------------------|-------------|--------------|------------|----------------|------|------|-------|-------|------|------|-------|-------|-----------|--------------------------|
|                      |             |              |            |                | mm   | mm   | mm    | mm    | mm   | mm   | mm    |       |           |                          |
| JS754100E2C.9Z4C-HXT | 03187151    | 2            | E          | ■              | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,125 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754120E2C.9Z4C-HXT | 03187152    | 2            | E          | ■              | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,15  | 4     | Safe-lock | <input type="checkbox"/> |
| JS754060E3C.9Z4C-HXT | 03200571    | 3            | E          | ■              | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,075 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754080E3C.9Z4C-HXT | 03200572    | 3            | E          | ■              | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,1   | 4     | Safe-lock | <input type="checkbox"/> |
| JS754100E3C.9Z4C-HXT | 03187160    | 3            | E          | ■              | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,125 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754120E3C.9Z4C-HXT | 03187161    | 3            | E          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,15  | 4     | Safe-lock | <input type="checkbox"/> |
| JS754160E3C.9Z4C-HXT | 03187162    | 3            | E          | ■              | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,2   | 4     | Safe-lock | <input type="checkbox"/> |
| JS754200E3C.9Z4C-HXT | 03187163    | 3            | E          | ■              | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,25  | 4     | Safe-lock | <input type="checkbox"/> |

☐ Safelock available. Delivery time is 6 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

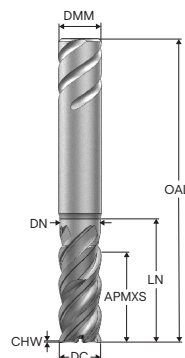
Graphite

X-Heads

Minimaster

### JS754

High performance – Square – ISO– M and ISO– S – 4 Flutes – Safelock – Chamfer



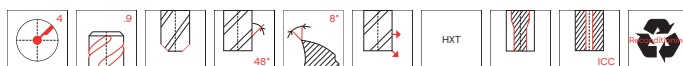
E

—Tolerances:

—DMM= h5

—DC= e7

—Reground possible



| Designation          | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | PCEDC | Shank     | Stock standard |
|----------------------|-------------|--------------|------------|-----|------|------|-------|-------|------|------|-------|-------|-----------|----------------|
|                      |             |              |            |     | mm   | mm   | mm    | mm    | mm   | mm   | mm    |       |           |                |
| JS754060E2C.9Z4A-HXT | 03187164    | 2            | E          | ■   | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,075 | 4     | Safe-lock | □              |
| JS754080E2C.9Z4A-HXT | 03187165    | 2            | E          | ■   | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,1   | 4     | Safe-lock | □              |
| JS754100E2C.9Z4A-HXT | 03187166    | 2            | E          | ■   | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,125 | 4     | Safe-lock | □              |
| JS754120E2C.9Z4A-HXT | 03187167    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,15  | 4     | Safe-lock | □              |
| JS754160E2C.9Z4A-HXT | 03187168    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,2   | 4     | Safe-lock | □              |
| JS754200E2C.9Z4A-HXT | 03187169    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,25  | 4     | Safe-lock | □              |

☐ Safelock available. Delivery time is 6 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

Graphite

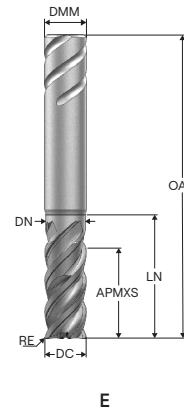
X-Heads

Minimaster



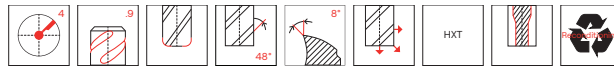
## JS754

High performance – Square – ISO– M and ISO– S – 4 Flutes – Safelock – Corner radius



E

- Tolerances:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank     | Stock standard                      |
|------------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-----------|-------------------------------------|
|                        |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |           |                                     |
| JS754060E2R020.9Z4-HXT | 03187170    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,2 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754060E2R050.9Z4-HXT | 03187171    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,5 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754060E2R100.9Z4-HXT | 03187172    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 1,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754080E2R050.9Z4-HXT | 03187173    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,5 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754080E2R100.9Z4-HXT | 03187174    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 1,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754100E2R050.9Z4-HXT | 03187175    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,5 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754100E2R100.9Z4-HXT | 03187176    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 1,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754100E2R150.9Z4-HXT | 03200573    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 1,5 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754100E2R200.9Z4-HXT | 03187177    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 2,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754100E2R300.9Z4-HXT | 03187178    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 3,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754120E2R050.9Z4-HXT | 03187179    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,5 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754120E2R100.9Z4-HXT | 03187180    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 1,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754120E2R150.9Z4-HXT | 03200832    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 1,5 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754120E2R200.9Z4-HXT | 03187181    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 2,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754120E2R300.9Z4-HXT | 03187182    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 3,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754160E2R050.9Z4-HXT | 03187183    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,5 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754160E2R100.9Z4-HXT | 03187184    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 1,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754160E2R200.9Z4-HXT | 03187185    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 2,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754160E2R300.9Z4-HXT | 03187186    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 3,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754160E2R400.9Z4-HXT | 03187187    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 4,0 | 4     | Safe-lock | <input checked="" type="checkbox"/> |
| JS754160E2R600.9Z4-HXT | 03187188    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 6,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754200E2R050.9Z4-HXT | 03187189    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,5 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754200E2R100.9Z4-HXT | 03187190    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 1,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754200E2R200.9Z4-HXT | 03187191    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 2,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754200E2R300.9Z4-HXT | 03187192    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 3,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754200E2R400.9Z4-HXT | 03187193    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 4,0 | 4     | Safe-lock | <input type="checkbox"/>            |
| JS754200E2R600.9Z4-HXT | 03187194    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 6,0 | 4     | Safe-lock | <input type="checkbox"/>            |

☐ Safelock available. Delivery time is 6 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cf/np

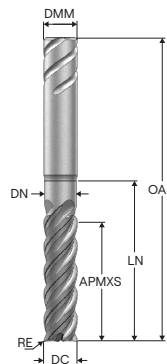
Graphite

X-Heads

Minimaster

## JS754

High performance – Square – ISO– M and ISO– S – 4 Flutes – Safelock – Corner radius



E

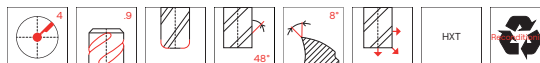
—Tolerances:

—DMM= h5

—DC= e7

—RE= ±0,02 mm

—Regrind possible



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank     | Stock standard           |
|------------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-----------|--------------------------|
| JS754060E3R020.9Z4-HXT | 03187197    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,2 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754060E3R050.9Z4-HXT | 03187198    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754060E3R100.9Z4-HXT | 03187199    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 1,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754080E3R050.9Z4-HXT | 03187200    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754080E3R100.9Z4-HXT | 03187201    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 1,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754100E3R050.9Z4-HXT | 03187202    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754100E3R100.9Z4-HXT | 03187203    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 1,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754100E3R200.9Z4-HXT | 03187204    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 2,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754100E3R300.9Z4-HXT | 03187205    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 3,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754120E3R050.9Z4-HXT | 03187206    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754120E3R100.9Z4-HXT | 03187207    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 1,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754120E3R200.9Z4-HXT | 03187208    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 2,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754120E3R300.9Z4-HXT | 03187209    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 3,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754160E3R050.9Z4-HXT | 03187210    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754160E3R100.9Z4-HXT | 03187211    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 1,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754160E3R200.9Z4-HXT | 03187212    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 2,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754160E3R300.9Z4-HXT | 03187213    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 3,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754160E3R400.9Z4-HXT | 03187214    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 4,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754160E3R600.9Z4-HXT | 03187215    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 6,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754200E3R050.9Z4-HXT | 03187216    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754200E3R100.9Z4-HXT | 03187217    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 1,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754200E3R200.9Z4-HXT | 03187218    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 2,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754200E3R300.9Z4-HXT | 03187219    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 3,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754200E3R400.9Z4-HXT | 03187220    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 4,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JS754200E3R600.9Z4-HXT | 03187221    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 6,0 | 4     | Safe-lock | <input type="checkbox"/> |

☐ Safelock available. Delivery time is 6 days.

## Cutting data – JS754 Side milling roughing

| SMG |         | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>   |                  |                  |                 |                 |                 |                 |                 |                 |                 | v <sub>c</sub>                     |                                 |
|-----|---------|--------------------|--------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|---------------------------------|
|     |         |                    |                    | 3                | 4                | 5                | 6               | 8               | 10              | 12              | 16              | 20              | 25              |                                    |                                 |
| P11 | M/A/D/E | 0.400<br>0,400     | 0.80<br>0,80       | 0.026<br>0,0010  | 0.036<br>0,0014  | 0.044<br>0,0017  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 0.17<br>0,0065  | 165 (130 — 180)<br>540 (430 — 590) | Universal                       |
| P12 | M/A/D/E | 0.400<br>0,400     | 0.80<br>0,80       | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048  | 105 (83 — 120)<br>345 (280 — 390)  | Steel and cast iron             |
| M1  | E       | 0.400<br>0,400     | 1.0<br>1,0         | 0.020<br>0,00080 | 0.026<br>0,0010  | 0.034<br>0,0013  | 0.040<br>0,0016 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.13<br>0,0050  | 110 (96 — 130)<br>360 (320 — 420)  | Steel and cast iron             |
| M2  | E       | 0.400<br>0,400     | 1.0<br>1,0         | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048  | 90 (79 — 110)<br>295 (260 — 360)   |                                 |
| M3  | E       | 0.400<br>0,400     | 0.90<br>0,90       | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 60 (44 — 76)<br>195 (150 — 240)    |                                 |
| M4  | E       | 0.400<br>0,400     | 0.90<br>0,90       | 0.013<br>0,00050 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.026<br>0,0010 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 46 (34 — 59)<br>150 (120 — 190)    |                                 |
| M5  | E       | 0.400<br>0,400     | 0.90<br>0,90       | 0.013<br>0,00050 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.026<br>0,0010 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 39 (29 — 49)<br>130 (96 — 160)     |                                 |
| S1  | E       | 0.150<br>0,150     | 0.50<br>0,50       | 0.026<br>0,0010  | 0.034<br>0,0013  | 0.044<br>0,0017  | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.15<br>0,0060  | 0.17<br>0,0065  | 165 (86 — 220)<br>41 (21 — 55)     | Stainless steel and S-materials |
| S2  | E       | 0.150<br>0,150     | 0.50<br>0,50       | 0.026<br>0,0010  | 0.034<br>0,0013  | 0.044<br>0,0017  | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.15<br>0,0060  | 0.17<br>0,0065  | 135 (69 — 180)<br>36 (19 — 48)     |                                 |
| S3  | E       | 0.150<br>0,150     | 0.50<br>0,50       | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 120 (63 — 150)<br>110 (73 — 140)   |                                 |
| S11 | E       | 0.400<br>0,400     | 0.70<br>0,70       | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048  | 360 (240 — 450)<br>85 (56 — 110)   | Non ferrous                     |
| S12 | E       | 0.400<br>0,400     | 0.70<br>0,70       | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.12<br>0,0048  | 280 (190 — 360)<br>65 (44 — 87)    |                                 |
| S13 | E       | 0.400<br>0,400     | 0.70<br>0,70       | 0.016<br>0,00065 | 0.022<br>0,00085 | 0.026<br>0,0010  | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 215 (150 — 280)                    |                                 |

## Cutting data – JS754 Slot milling

| SMG |         | a <sub>p</sub> /DC | f <sub>z</sub>    |                  |                  |                  |                 |                 |                 |                 |                 |                 | v <sub>c</sub>                     |                  |
|-----|---------|--------------------|-------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|------------------|
|     |         |                    | 3                 | 4                | 5                | 6                | 8               | 10              | 12              | 16              | 20              | 25              |                                    |                  |
| P11 | M/A/D/E | 0.80<br>0,80       | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 150 (120 — 170)<br>490 (400 — 550) | Hard             |
| P12 | M/A/D/E | 0.80<br>0,80       | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.11<br>0,0044  | 90 (69 — 100)<br>295 (230 — 320)   | Plastic and cf/p |
| M1  | E       | 0.80<br>0,80       | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 95 (85 — 120)<br>310 (280 — 390)   |                  |
| M2  | E       | 0.80<br>0,80       | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 80 (69 — 97)<br>260 (230 — 310)    |                  |
| M3  | E       | 0.60<br>0,60       | 0.0095<br>0,00038 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.019<br>0,00075 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 55 (39 — 67)<br>180 (130 — 210)    |                  |
| M4  | E       | 0.60<br>0,60       | 0.0095<br>0,00038 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.019<br>0,00075 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 40 (29 — 50)<br>130 (96 — 160)     |                  |
| M5  | E       | 0.60<br>0,60       | 0.0095<br>0,00038 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.019<br>0,00075 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 33 (25 — 42)<br>110 (83 — 130)     | Graphite         |
| S1  | E       | 0.30<br>0,30       | 0.0095<br>0,00038 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.019<br>0,00075 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 41 (21 — 54)<br>135 (69 — 170)     |                  |
| S2  | E       | 0.30<br>0,30       | 0.0095<br>0,00038 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.019<br>0,00075 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 33 (17 — 43)<br>110 (56 — 140)     |                  |
| S3  | E       | 0.30<br>0,30       | 0.0095<br>0,00038 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.019<br>0,00075 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 28 (15 — 37)<br>90 (50 — 120)      | X-Heads          |
| S11 | E       | 0.50<br>0,50       | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 95 (63 — 120)<br>310 (210 — 390)   |                  |
| S12 | E       | 0.50<br>0,50       | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 70 (48 — 95)<br>230 (160 — 310)    |                  |
| S13 | E       | 0.50<br>0,50       | 0.012<br>0,00048  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 55 (38 — 74)<br>180 (130 — 240)    |                  |

If radius exceeds 15% of value DC please reduce fz with 20%

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – JS754-2C Advanced roughing $a_e/DC=0,05-0,1$

| SMG |  | $a_e/DC$         | $a_p/DC$   | $f_z$           |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|------------------|------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                  |            | 10              | 12              |                                    |
| P11 | M/A/D/E                                                                           | 0.100<br>0,100   | 2.0<br>2,0 | 0.15<br>0,0060  | 0.17<br>0,0065  | 265 (220 — 290)<br>870 (730 — 950) |
| P12 | M/A/D/E                                                                           | 0.100<br>0,100   | 2.0<br>2,0 | 0.10<br>0,0040  | 0.12<br>0,0048  | 170 (150 — 190)<br>560 (500 — 620) |
| M1  | E                                                                                 | 0.100<br>0,100   | 2.0<br>2,0 | 0.11<br>0,0044  | 0.13<br>0,0050  | 205 (180 — 230)<br>670 (600 — 750) |
| M2  | E                                                                                 | 0.100<br>0,100   | 2.0<br>2,0 | 0.10<br>0,0040  | 0.12<br>0,0048  | 170 (150 — 190)<br>560 (500 — 620) |
| M3  | E                                                                                 | 0.100<br>0,100   | 2.0<br>2,0 | 0.10<br>0,0040  | 0.12<br>0,0048  | 130 (120 — 150)<br>425 (400 — 490) |
| M4  | E                                                                                 | 0.100<br>0,100   | 2.0<br>2,0 | 0.085<br>0,0034 | 0.10<br>0,0040  | 100 (86 — 110)<br>330 (290 — 360)  |
| M5  | E                                                                                 | 0.100<br>0,100   | 2.0<br>2,0 | 0.085<br>0,0034 | 0.10<br>0,0040  | 85 (72 — 96)<br>280 (240 — 310)    |
| S1  | E                                                                                 | 0.0500<br>0,0500 | 2.0<br>2,0 | 0.085<br>0,0034 | 0.10<br>0,0040  | 70 (43 — 99)<br>230 (150 — 320)    |
| S2  | E                                                                                 | 0.0500<br>0,0500 | 2.0<br>2,0 | 0.085<br>0,0034 | 0.10<br>0,0040  | 60 (35 — 80)<br>195 (120 — 260)    |
| S3  | E                                                                                 | 0.0500<br>0,0500 | 2.0<br>2,0 | 0.080<br>0,0032 | 0.095<br>0,0038 | 50 (31 — 70)<br>165 (110 — 220)    |
| S11 | E                                                                                 | 0.0800<br>0,0800 | 2.0<br>2,0 | 0.070<br>0,0028 | 0.085<br>0,0034 | 165 (140 — 190)<br>540 (460 — 620) |
| S12 | E                                                                                 | 0.0800<br>0,0800 | 2.0<br>2,0 | 0.070<br>0,0028 | 0.085<br>0,0034 | 125 (110 — 150)<br>410 (370 — 490) |
| S13 | E                                                                                 | 0.0800<br>0,0800 | 2.0<br>2,0 | 0.060<br>0,0024 | 0.070<br>0,0028 | 100 (84 — 110)<br>330 (280 — 360)  |

## Cutting data – JS754-3C Advanced roughing $a_e/DC=0,05-0,1$

| SMG |  | $a_e/DC$         | $a_p/DC$   | $f_z$           |                 |                 |                 |                 |                | $v_c$                              |
|-----|-------------------------------------------------------------------------------------|------------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|------------------------------------|
|     |                                                                                     |                  |            | 6               | 8               | 10              | 12              | 16              | 20             |                                    |
| P11 | M/A/D/E                                                                             | 0.100<br>0,100   | 4.0<br>4,0 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 0.22<br>0,0085  | 0.25<br>0,010  | 265 (220 — 290)<br>870 (730 — 950) |
| P12 | M/A/D/E                                                                             | 0.100<br>0,100   | 4.0<br>4,0 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065 | 170 (140 — 180)<br>560 (460 — 590) |
| M1  | E                                                                                   | 0.100<br>0,100   | 4.0<br>4,0 | 0.065<br>0,0026 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.16<br>0,0065  | 0.19<br>0,0075 | 205 (170 — 230)<br>670 (560 — 750) |
| M2  | E                                                                                   | 0.100<br>0,100   | 4.0<br>4,0 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065 | 170 (140 — 190)<br>560 (460 — 620) |
| M3  | E                                                                                   | 0.100<br>0,100   | 4.0<br>4,0 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065 | 130 (110 — 150)<br>425 (370 — 490) |
| M4  | E                                                                                   | 0.100<br>0,100   | 4.0<br>4,0 | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.15<br>0,0060 | 100 (86 — 110)<br>330 (290 — 360)  |
| M5  | E                                                                                   | 0.100<br>0,100   | 4.0<br>4,0 | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.15<br>0,0060 | 85 (72 — 96)<br>280 (240 — 310)    |
| S1  | E                                                                                   | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.15<br>0,0060 | 70 (43 — 99)<br>230 (150 — 320)    |
| S2  | E                                                                                   | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.15<br>0,0060 | 55 (35 — 80)<br>180 (120 — 260)    |
| S3  | E                                                                                   | 0.0500<br>0,0500 | 4.0<br>4,0 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055 | 50 (30 — 70)<br>165 (99 — 220)     |
| S11 | E                                                                                   | 0.0800<br>0,0800 | 4.0<br>4,0 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 165 (140 — 190)<br>540 (460 — 620) |
| S12 | E                                                                                   | 0.0800<br>0,0800 | 4.0<br>4,0 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 125 (110 — 150)<br>410 (370 — 490) |
| S13 | E                                                                                   | 0.0800<br>0,0800 | 4.0<br>4,0 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040 | 100 (84 — 110)<br>330 (280 — 360)  |

If radius exceeds 15% of value DC please reduce  $f_z$  with 20%

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

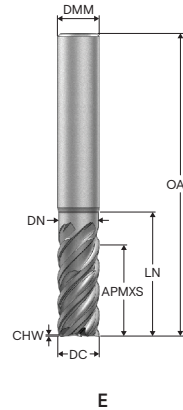
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

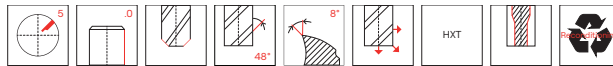
All cutting data are target values

## JS755

High performance – Square – ISO– M and ISO– S – 5 Flutes – Cylindrical – Chamfer



- Tolerances:
- DMM= h5
- DC= e7
- Regrind possible



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-------|-------|-------------|----------------|
| JS755060E2C.0Z5-HXT | 03186907    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,075 | 5     | Cylindrical | ■              |
| JS755080E2C.0Z5-HXT | 03186908    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,1   | 5     | Cylindrical | ■              |
| JS755100E2C.0Z5-HXT | 03186909    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,125 | 5     | Cylindrical | ■              |
| JS755120E2C.0Z5-HXT | 03186910    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,15  | 5     | Cylindrical | ■              |
| JS755160E2C.0Z5-HXT | 03186911    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,2   | 5     | Cylindrical | ■              |
| JS755200E2C.0Z5-HXT | 03186912    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,25  | 5     | Cylindrical | ■              |
| JS755250E2C.0Z5-HXT | 03186913    | 2            | E          | 25,0 | 25,0 | 50,0  | 121,0 | 65,0 | 23,8 | 0,3   | 5     | Cylindrical | ■              |
| JS755060E3C.0Z5-HXT | 03186914    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,075 | 5     | Cylindrical | ■              |
| JS755080E3C.0Z5-HXT | 03186915    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,1   | 5     | Cylindrical | ■              |
| JS755100E3C.0Z5-HXT | 03186916    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,125 | 5     | Cylindrical | ■              |
| JS755120E3C.0Z5-HXT | 03186917    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,15  | 5     | Cylindrical | ■              |
| JS755160E3C.0Z5-HXT | 03186918    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,2   | 5     | Cylindrical | ■              |
| JS755200E3C.0Z5-HXT | 03186919    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,25  | 5     | Cylindrical | ■              |
| JS755250E3C.0Z5-HXT | 03186920    | 3            | E          | 25,0 | 25,0 | 85,0  | 153,0 | 94,0 | 23,8 | 0,3   | 5     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfpr

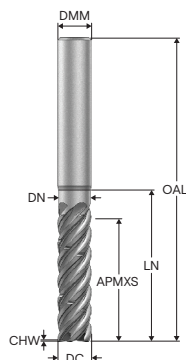
Graphite

X-Heads

Minimaster

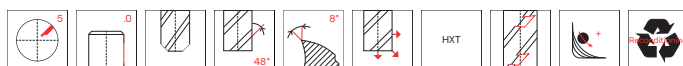
## JS755

High performance - Square - ISO- M and ISO- S - 5 Flutes - Cylindrical - Chamfer



E

—Tolerances:  
—DMM= h5  
—DC= e7  
—Regrind possible

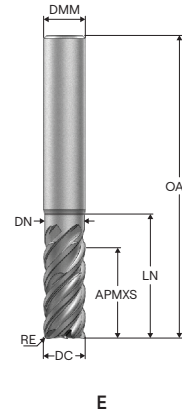


| Designation          | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|----------------|------|------|-------|-------|------|------|-------|-------|-------------|----------------|
| JS755100E3C.0Z5C-HXT | 03186921    | 3            | E          | ■              | mm   | mm   | mm    | mm    | mm   | mm   | mm    | mm    |             |                |
| JS755120E3C.0Z5C-HXT | 03186922    | 3            | E          | ■              | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,125 | 5     | Cylindrical | ■              |
| JS755160E3C.0Z5C-HXT | 03186923    | 3            | E          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,15  | 5     | Cylindrical | ■              |
| JS755200E3C.0Z5C-HXT | 03186924    | 3            | E          | ■              | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,2   | 5     | Cylindrical | ■              |
| JS755200E3C.0Z5C-HXT | 03186924    | 3            | E          | ■              | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,25  | 5     | Cylindrical | ■              |

■ Stocked standard.

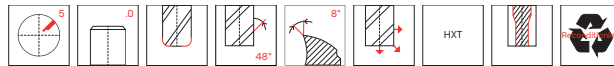
## JS755

High performance – Square – ISO– M and ISO– S – 5 Flutes – Cylindrical – Corner radius



E

- Tolerances:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
|                        |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |             |                |
| JS755060E2R020.0Z5-HXT | 03186925    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,2 | 5     | Cylindrical | ■              |
| JS755060E2R050.0Z5-HXT | 03186926    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,5 | 5     | Cylindrical | ■              |
| JS755060E2R100.0Z5-HXT | 03186927    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 1,0 | 5     | Cylindrical | ■              |
| JS755080E2R050.0Z5-HXT | 03186928    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,5 | 5     | Cylindrical | ■              |
| JS755080E2R100.0Z5-HXT | 03186929    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 1,0 | 5     | Cylindrical | ■              |
| JS755100E2R050.0Z5-HXT | 03186930    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,5 | 5     | Cylindrical | ■              |
| JS755100E2R100.0Z5-HXT | 03186931    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 1,0 | 5     | Cylindrical | ■              |
| JS755100E2R200.0Z5-HXT | 03186932    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 2,0 | 5     | Cylindrical | ■              |
| JS755100E2R300.0Z5-HXT | 03186933    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 3,0 | 5     | Cylindrical | ■              |
| JS755120E2R050.0Z5-HXT | 03186934    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,5 | 5     | Cylindrical | ■              |
| JS755120E2R100.0Z5-HXT | 03186935    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 1,0 | 5     | Cylindrical | ■              |
| JS755120E2R200.0Z5-HXT | 03186936    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 2,0 | 5     | Cylindrical | ■              |
| JS755120E2R300.0Z5-HXT | 03186937    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 3,0 | 5     | Cylindrical | ■              |
| JS755160E2R050.0Z5-HXT | 03186938    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,5 | 5     | Cylindrical | ■              |
| JS755160E2R100.0Z5-HXT | 03186939    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 1,0 | 5     | Cylindrical | ■              |
| JS755200E2R050.0Z5-HXT | 03186941    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,5 | 5     | Cylindrical | ■              |
| JS755200E2R100.0Z5-HXT | 03186942    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 1,0 | 5     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

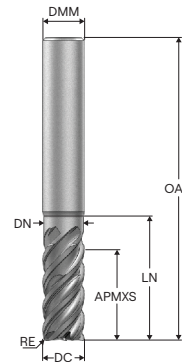
Graphite

X-Heads

Minimaster

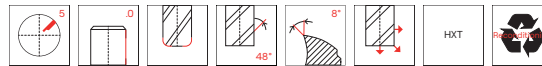
### JS755

High performance – Square – ISO– M and ISO– S – 5 Flutes – Cylindrical – Corner radius



E

—Tolerances:  
—DMM= h5  
—DC= e7  
—RE= ±0,02 mm  
—Reground possible



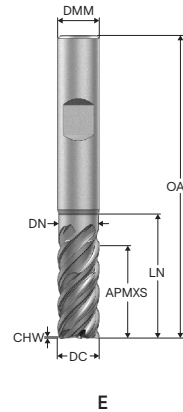
| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
| JS755060E3R020.0Z5-HXT | 03186946    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,2 | 5     | Cylindrical | ■              |
| JS755060E3R050.0Z5-HXT | 03186947    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,5 | 5     | Cylindrical | ■              |
| JS755060E3R100.0Z5-HXT | 03186948    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 1,0 | 5     | Cylindrical | ■              |
| JS755080E3R050.0Z5-HXT | 03186949    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,5 | 5     | Cylindrical | ■              |
| JS755080E3R100.0Z5-HXT | 03186950    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 1,0 | 5     | Cylindrical | ■              |
| JS755100E3R050.0Z5-HXT | 03186951    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,5 | 5     | Cylindrical | ■              |
| JS755100E3R100.0Z5-HXT | 03186952    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 1,0 | 5     | Cylindrical | ■              |
| JS755100E3R200.0Z5-HXT | 03186953    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 2,0 | 5     | Cylindrical | ■              |
| JS755100E3R300.0Z5-HXT | 03186954    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 3,0 | 5     | Cylindrical | ■              |
| JS755120E3R050.0Z5-HXT | 03186955    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,5 | 5     | Cylindrical | ■              |
| JS755120E3R100.0Z5-HXT | 03186956    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 1,0 | 5     | Cylindrical | ■              |
| JS755120E3R200.0Z5-HXT | 03186957    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 2,0 | 5     | Cylindrical | ■              |
| JS755120E3R300.0Z5-HXT | 03186958    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 3,0 | 5     | Cylindrical | ■              |
| JS755160E3R050.0Z5-HXT | 03186959    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,5 | 5     | Cylindrical | ■              |
| JS755160E3R600.0Z5-HXT | 03186960    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 6,0 | 5     | Cylindrical | ■              |
| JS755200E3R050.0Z5-HXT | 03186961    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,5 | 5     | Cylindrical | ■              |
| JS755200E3R600.0Z5-HXT | 03186962    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 6,0 | 5     | Cylindrical | ■              |

■ Stocked standard.



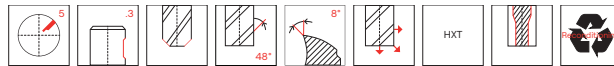
## JS755

High performance – Square – ISO– M and ISO– S – 5 Flutes – Weldon – Chamfer



E

- Tolerances:
- DMM= h5
- DC= e7
- Regrind possible



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | PCEDC | Shank  | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-------|-------|--------|----------------|
| JS755060E2C.3Z5-HXT | 03187083    | 2            | E          | mm   | mm   | mm    | mm    | mm   | mm   | mm    | mm    | Weldon | ■              |
| JS755080E2C.3Z5-HXT | 03187084    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,075 | 5     | Weldon | ■              |
| JS755100E2C.3Z5-HXT | 03187085    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,1   | 5     | Weldon | ■              |
| JS755120E2C.3Z5-HXT | 03187086    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,125 | 5     | Weldon | ■              |
| JS755160E2C.3Z5-HXT | 03187087    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,15  | 5     | Weldon | ■              |
| JS755200E2C.3Z5-HXT | 03187088    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,2   | 5     | Weldon | ■              |
| JS755250E2C.3Z5-HXT | 03187089    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,25  | 5     | Weldon | ■              |
| JS755060E3C.3Z5-HXT | 03187090    | 3            | E          | 25,0 | 25,0 | 50,0  | 121,0 | 65,0 | 23,8 | 0,3   | 5     | Weldon | ■              |
| JS755080E3C.3Z5-HXT | 03187091    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,075 | 5     | Weldon | ■              |
| JS755100E3C.3Z5-HXT | 03187092    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,1   | 5     | Weldon | ■              |
| JS755120E3C.3Z5-HXT | 03187093    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,125 | 5     | Weldon | ■              |
| JS755160E3C.3Z5-HXT | 03187094    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,15  | 5     | Weldon | ■              |
| JS755200E3C.3Z5-HXT | 03187095    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,2   | 5     | Weldon | ■              |
| JS755250E3C.3Z5-HXT | 03187096    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,25  | 5     | Weldon | ■              |
| JS755250E3C.3Z5-HXT | 03187096    | 3            | E          | 25,0 | 25,0 | 85,0  | 153,0 | 94,0 | 23,8 | 0,3   | 5     | Weldon | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfpr

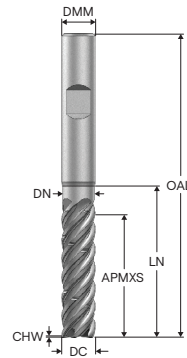
Graphite

X-Heads

Minimaster

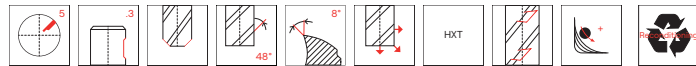
### JS755

High performance – Square – ISO– M and ISO– S – 5 Flutes – Weldon – Chamfer



E

—Tolerances:  
—DMM= h5  
—DC= e7  
—Regrind possible



| Designation          | Item number | Length index | Tool shape | Chip splitters | DC         | DMM        | APMXS      | OAL        | LN         | DN        | CHW         | PCEDC | Shank  | Stock standard |
|----------------------|-------------|--------------|------------|----------------|------------|------------|------------|------------|------------|-----------|-------------|-------|--------|----------------|
| JS755100E3C.3Z5C-HXT | 03187097    | 3            | E          | ■              | mm<br>10,0 | mm<br>10,0 | mm<br>40,0 | mm<br>89,0 | mm<br>47,0 | mm<br>9,5 | mm<br>0,125 | 5     | Weldon | ■              |
| JS755120E3C.3Z5C-HXT | 03187098    | 3            | E          | ■              | 12,0       | 12,0       | 45,0       | 100,0      | 53,0       | 11,4      | 0,15        | 5     | Weldon | ■              |
| JS755160E3C.3Z5C-HXT | 03187099    | 3            | E          | ■              | 16,0       | 16,0       | 55,0       | 115,0      | 65,0       | 15,2      | 0,2         | 5     | Weldon | ■              |
| JS755200E3C.3Z5C-HXT | 03187100    | 3            | E          | ■              | 20,0       | 20,0       | 61,0       | 125,0      | 72,0       | 19,0      | 0,25        | 5     | Weldon | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

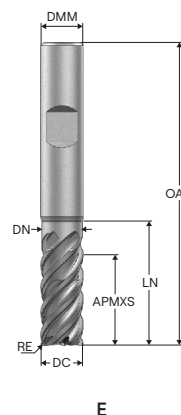
Graphite

X-Heads

Minimaster

## JS755

High performance – Square – ISO– M and ISO– S – 5 Flutes – Weldon – Corner radius



- Tolerances:
- DMM= h5
- DC= e7
- RE=  $\pm 0,02$  mm
- Regrind possible

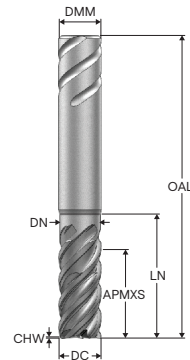


| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank  | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|--------|----------------|
|                        |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |        |                |
| JS755060E2R020.3Z5-HXT | 03187101    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,2 | 5     | Weldon | ■              |
| JS755060E2R050.3Z5-HXT | 03187102    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,5 | 5     | Weldon | ■              |
| JS755060E2R100.3Z5-HXT | 03187103    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 1,0 | 5     | Weldon | ■              |
| JS755080E2R050.3Z5-HXT | 03187104    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,5 | 5     | Weldon | ■              |
| JS755080E2R100.3Z5-HXT | 03187105    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 1,0 | 5     | Weldon | ■              |
| JS755100E2R050.3Z5-HXT | 03187106    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,5 | 5     | Weldon | ■              |
| JS755100E2R100.3Z5-HXT | 03187107    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 1,0 | 5     | Weldon | ■              |
| JS755100E2R200.3Z5-HXT | 03187108    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 2,0 | 5     | Weldon | ■              |
| JS755100E2R300.3Z5-HXT | 03187109    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 3,0 | 5     | Weldon | ■              |
| JS755120E2R050.3Z5-HXT | 03187110    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,5 | 5     | Weldon | ■              |
| JS755120E2R100.3Z5-HXT | 03187111    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 1,0 | 5     | Weldon | ■              |
| JS755120E2R200.3Z5-HXT | 03187112    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 2,0 | 5     | Weldon | ■              |
| JS755120E2R300.3Z5-HXT | 03187113    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 3,0 | 5     | Weldon | ■              |
| JS755160E2R050.3Z5-HXT | 03187114    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,5 | 5     | Weldon | ■              |
| JS755160E2R100.3Z5-HXT | 03187115    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 1,0 | 5     | Weldon | ■              |
| JS755160E2R600.3Z5-HXT | 03187116    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 6,0 | 5     | Weldon | ■              |
| JS755200E2R050.3Z5-HXT | 03187117    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,5 | 5     | Weldon | ■              |
| JS755200E2R100.3Z5-HXT | 03187118    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 1,0 | 5     | Weldon | ■              |
| JS755200E2R600.3Z5-HXT | 03187119    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 6,0 | 5     | Weldon | ■              |
| JS755060E3R020.3Z5-HXT | 03187122    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,2 | 5     | Weldon | □              |
| JS755060E3R050.3Z5-HXT | 03187123    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,5 | 5     | Weldon | □              |
| JS755060E3R100.3Z5-HXT | 03187124    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 1,0 | 5     | Weldon | □              |
| JS755080E3R050.3Z5-HXT | 03187125    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,5 | 5     | Weldon | □              |
| JS755080E3R100.3Z5-HXT | 03187126    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 1,0 | 5     | Weldon | □              |
| JS755100E3R050.3Z5-HXT | 03187127    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,5 | 5     | Weldon | □              |
| JS755100E3R100.3Z5-HXT | 03187128    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 1,0 | 5     | Weldon | □              |
| JS755100E3R200.3Z5-HXT | 03187129    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 2,0 | 5     | Weldon | □              |
| JS755100E3R300.3Z5-HXT | 03187130    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 3,0 | 5     | Weldon | □              |
| JS755120E3R050.3Z5-HXT | 03187131    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,5 | 5     | Weldon | □              |
| JS755120E3R100.3Z5-HXT | 03187132    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 1,0 | 5     | Weldon | □              |
| JS755120E3R200.3Z5-HXT | 03187133    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 2,0 | 5     | Weldon | □              |
| JS755120E3R300.3Z5-HXT | 03187134    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 3,0 | 5     | Weldon | □              |
| JS755160E3R050.3Z5-HXT | 03187135    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,5 | 5     | Weldon | □              |
| JS755160E3R600.3Z5-HXT | 03187136    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 6,0 | 5     | Weldon | □              |
| JS755200E3R050.3Z5-HXT | 03187137    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,5 | 5     | Weldon | □              |
| JS755200E3R600.3Z5-HXT | 03187138    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 6,0 | 5     | Weldon | □              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

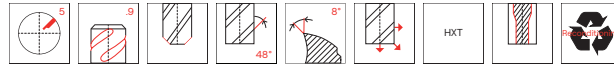
### JS755

High performance – Square – ISO– M and ISO– S – 5 Flutes – Safelock – Chamfer



E

—Tolerances:  
—DMM= h5  
—DC= e7  
—Reground possible

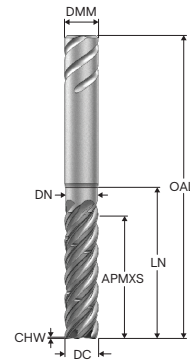


| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | PCEDC | Shank     | Stock standard           |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-------|-------|-----------|--------------------------|
| JS755060E2C.9Z5-HXT | 03187235    | 2            | E          | mm   | mm   | mm    | mm    | mm   | mm   | mm    | mm    |           |                          |
| JS755080E2C.9Z5-HXT | 03187236    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,075 | 5     | Safe-lock | <input type="checkbox"/> |
| JS755100E2C.9Z5-HXT | 03187237    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,1   | 5     | Safe-lock | <input type="checkbox"/> |
| JS755120E2C.9Z5-HXT | 03187238    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,125 | 5     | Safe-lock | <input type="checkbox"/> |
| JS755160E2C.9Z5-HXT | 03187239    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,15  | 5     | Safe-lock | <input type="checkbox"/> |
| JS755200E2C.9Z5-HXT | 03187240    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,2   | 5     | Safe-lock | <input type="checkbox"/> |
| JS755250E2C.9Z5-HXT | 03187241    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,25  | 5     | Safe-lock | <input type="checkbox"/> |
| JS755060E3C.9Z5-HXT | 03187242    | 3            | E          | 25,0 | 25,0 | 50,0  | 121,0 | 65,0 | 23,8 | 0,3   | 5     | Safe-lock | <input type="checkbox"/> |
| JS755080E3C.9Z5-HXT | 03187243    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,075 | 5     | Safe-lock | <input type="checkbox"/> |
| JS755100E3C.9Z5-HXT | 03187244    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,1   | 5     | Safe-lock | <input type="checkbox"/> |
| JS755120E3C.9Z5-HXT | 03187245    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,125 | 5     | Safe-lock | <input type="checkbox"/> |
| JS755160E3C.9Z5-HXT | 03187246    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,15  | 5     | Safe-lock | <input type="checkbox"/> |
| JS755200E3C.9Z5-HXT | 03187247    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,2   | 5     | Safe-lock | <input type="checkbox"/> |
| JS755250E3C.9Z5-HXT | 03187248    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,25  | 5     | Safe-lock | <input type="checkbox"/> |
| JS755250E3C.9Z5-HXT | 03187248    | 3            | E          | 25,0 | 25,0 | 85,0  | 153,0 | 94,0 | 23,8 | 0,3   | 5     | Safe-lock | <input type="checkbox"/> |

☐ Safelock available. Delivery time is 6 days.

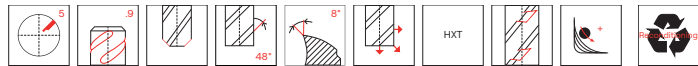
JS755

High performance – Square – ISO– M and ISO– S – 5 Flutes – Safelock – Chamfer



E

- Tolerances:
- DMM= h5
- DC= e7
- Regrind possible



| Designation          | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW   | PCEDC | Shank     | Stock standard           |
|----------------------|-------------|--------------|------------|----------------|------|------|-------|-------|------|------|-------|-------|-----------|--------------------------|
| JS755100E3C.9Z5C-HXT | 03187249    | 3            | E          | ■              | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,125 | 5     | Safe-lock | <input type="checkbox"/> |
| JS755120E3C.9Z5C-HXT | 03187250    | 3            | E          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,15  | 5     | Safe-lock | <input type="checkbox"/> |
| JS755160E3C.9Z5C-HXT | 03187252    | 3            | E          | ■              | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,2   | 5     | Safe-lock | <input type="checkbox"/> |
| JS755200E3C.9Z5C-HXT | 03187253    | 3            | E          | ■              | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,25  | 5     | Safe-lock | <input type="checkbox"/> |

☐ Safelock available. Delivery time is 6 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

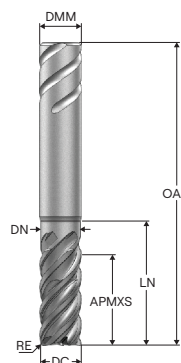
Graphite

X-Heads

Minimaster

JS755

High performance – Square – ISO– M and ISO– S – 5 Flutes – Safelock – Corner radius



E

—Tolerances:

—DMM= h5

$$-DC = e7$$

—RE= ±0,02 mm

—Regrind possible



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank     | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-----------|----------------|
|                        |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm  | mm    | mm        |                |
| JS755060E2R020.9Z5-HXT | 03187254    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,2 | 5     | Safe-lock | □              |
| JS755060E2R050.9Z5-HXT | 03187255    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 0,5 | 5     | Safe-lock | □              |
| JS755060E2R100.9Z5-HXT | 03187256    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 18,0 | 5,7  | 1,0 | 5     | Safe-lock | □              |
| JS755080E2R050.9Z5-HXT | 03187257    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,5 | 5     | Safe-lock | □              |
| JS755080E2R100.9Z5-HXT | 03187258    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 1,0 | 5     | Safe-lock | □              |
| JS755100E2R050.9Z5-HXT | 03187259    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 0,5 | 5     | Safe-lock | □              |
| JS755100E2R100.9Z5-HXT | 03187260    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 1,0 | 5     | Safe-lock | □              |
| JS755100E2R200.9Z5-HXT | 03187261    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 2,0 | 5     | Safe-lock | □              |
| JS755100E2R300.9Z5-HXT | 03187262    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 29,0 | 9,5  | 3,0 | 5     | Safe-lock | □              |
| JS755120E2R050.9Z5-HXT | 03187263    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,5 | 5     | Safe-lock | □              |
| JS755120E2R100.9Z5-HXT | 03187264    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 1,0 | 5     | Safe-lock | □              |
| JS755120E2R200.9Z5-HXT | 03187265    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 2,0 | 5     | Safe-lock | □              |
| JS755120E2R300.9Z5-HXT | 03187266    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 3,0 | 5     | Safe-lock | □              |
| JS755160E2R050.9Z5-HXT | 03187267    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 0,5 | 5     | Safe-lock | □              |
| JS755160E2R100.9Z5-HXT | 03187269    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 1,0 | 5     | Safe-lock | □              |
| JS755160E2R600.9Z5-HXT | 03187270    | 2            | E          | 16,0 | 16,0 | 32,0  | 92,0  | 42,0 | 15,2 | 6,0 | 5     | Safe-lock | □              |
| JS755200E2R050.9Z5-HXT | 03187271    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 0,5 | 5     | Safe-lock | □              |
| JS755200E2R100.9Z5-HXT | 03187272    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 1,0 | 5     | Safe-lock | □              |
| JS755200E2R600.9Z5-HXT | 03187273    | 2            | E          | 20,0 | 20,0 | 40,0  | 104,0 | 51,0 | 19,0 | 6,0 | 5     | Safe-lock | □              |
| JS755060E3R020.9Z5-HXT | 03187276    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,2 | 5     | Safe-lock | □              |
| JS755060E3R050.9Z5-HXT | 03187277    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 0,5 | 5     | Safe-lock | □              |
| JS755060E3R100.9Z5-HXT | 03187279    | 3            | E          | 6,0  | 6,0  | 21,0  | 65,0  | 26,0 | 5,7  | 1,0 | 5     | Safe-lock | □              |
| JS755080E3R050.9Z5-HXT | 03187280    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 0,5 | 5     | Safe-lock | □              |
| JS755080E3R100.9Z5-HXT | 03187281    | 3            | E          | 8,0  | 8,0  | 32,0  | 75,0  | 37,0 | 7,6  | 1,0 | 5     | Safe-lock | □              |
| JS755100E3R050.9Z5-HXT | 03187282    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 0,5 | 5     | Safe-lock | □              |
| JS755100E3R100.9Z5-HXT | 03187283    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 1,0 | 5     | Safe-lock | □              |
| JS755100E3R200.9Z5-HXT | 03187284    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 2,0 | 5     | Safe-lock | □              |
| JS755100E3R300.9Z5-HXT | 03187285    | 3            | E          | 10,0 | 10,0 | 40,0  | 89,0  | 47,0 | 9,5  | 3,0 | 5     | Safe-lock | □              |
| JS755120E3R050.9Z5-HXT | 03187286    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 0,5 | 5     | Safe-lock | □              |
| JS755120E3R100.9Z5-HXT | 03187287    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 1,0 | 5     | Safe-lock | □              |
| JS755120E3R200.9Z5-HXT | 03187288    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 2,0 | 5     | Safe-lock | □              |
| JS755120E3R300.9Z5-HXT | 03187289    | 3            | E          | 12,0 | 12,0 | 45,0  | 100,0 | 53,0 | 11,4 | 3,0 | 5     | Safe-lock | □              |
| JS755160E3R050.9Z5-HXT | 03187290    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 0,5 | 5     | Safe-lock | □              |
| JS755160E3R600.9Z5-HXT | 03187291    | 3            | E          | 16,0 | 16,0 | 55,0  | 115,0 | 65,0 | 15,2 | 6,0 | 5     | Safe-lock | □              |
| JS755200E3R050.9Z5-HXT | 03187292    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 0,5 | 5     | Safe-lock | □              |
| JS755200E3R600.9Z5-HXT | 03187293    | 3            | E          | 20,0 | 20,0 | 61,0  | 125,0 | 72,0 | 19,0 | 6,0 | 5     | Safe-lock | □              |

☐ Safelock available. Delivery time is 6 days.

## Cutting data – JS755 Side milling roughing

| SMG |         | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 |                 |                 |                 | v <sub>c</sub>                     |
|-----|---------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |         |                    |                    | 6               | 8               | 10              | 12              | 16              | 20              | 25              |                                    |
| P11 | M/A/D/E | 0.400<br>0,400     | 1.1<br>1,1         | 0.044<br>0,0017 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.11<br>0,0044  | 0.12<br>0,0048  | 0.14<br>0,0055  | 135 (97 — 150)<br>445 (320 — 490)  |
| P12 | M/A/D/E | 0.400<br>0,400     | 1.1<br>1,1         | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 85 (63 — 99)<br>280 (210 — 320)    |
| M1  | E       | 0.400<br>0,400     | 1.1<br>1,1         | 0.032<br>0,0013 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 170 (150 — 190)<br>560 (500 — 620) |
| M2  | E       | 0.400<br>0,400     | 1.1<br>1,1         | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 140 (120 — 150)<br>460 (400 — 490) |
| M3  | E       | 0.400<br>0,400     | 1.1<br>1,1         | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 110 (92 — 120)<br>360 (310 — 390)  |
| M4  | E       | 0.400<br>0,400     | 1.1<br>1,1         | 0.026<br>0,0010 | 0.034<br>0,0013 | 0.044<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 85 (71 — 95)<br>280 (240 — 310)    |
| M5  | E       | 0.400<br>0,400     | 1.1<br>1,1         | 0.026<br>0,0010 | 0.034<br>0,0013 | 0.044<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 70 (59 — 79)<br>230 (200 — 250)    |
| S1  | E       | 0.0300<br>0,0300   | 2.0<br>2,0         | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.14<br>0,0055  | 70 (48 — 110)<br>230 (160 — 360)   |
| S2  | E       | 0.0300<br>0,0300   | 2.0<br>2,0         | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.14<br>0,0055  | 60 (39 — 89)<br>195 (130 — 290)    |
| S3  | E       | 0.0300<br>0,0300   | 2.0<br>2,0         | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 50 (34 — 78)<br>165 (120 — 250)    |
| S11 | E       | 0.400<br>0,400     | 1.1<br>1,1         | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 140 (120 — 160)<br>460 (400 — 520) |
| S12 | E       | 0.400<br>0,400     | 1.1<br>1,1         | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 110 (91 — 120)<br>360 (300 — 390)  |
| S13 | E       | 0.400<br>0,400     | 1.1<br>1,1         | 0.026<br>0,0010 | 0.034<br>0,0013 | 0.044<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 85 (73 — 100)<br>280 (240 — 320)   |

Cutting data – JS755\_3C Advanced roughing a<sub>e</sub>/DC=0,05-0,1

| SMG |         | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                | v <sub>c</sub>                     |
|-----|---------|--------------------|--------------------|-----------------|-----------------|-----------------|----------------|------------------------------------|
|     |         |                    |                    | 10              | 12              | 16              | 20             |                                    |
| P11 | M/A/D/E | 0.100<br>0,100     | 4.0<br>4,0         | 0.15<br>0,0060  | 0.17<br>0,0065  | 0.22<br>0,0085  | 0.25<br>0,010  | 265 (220 — 290)<br>870 (730 — 950) |
| P12 | M/A/D/E | 0.100<br>0,100     | 4.0<br>4,0         | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065 | 170 (140 — 180)<br>560 (460 — 590) |
| M1  | E       | 0.100<br>0,100     | 4.0<br>4,0         | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.16<br>0,0065  | 0.19<br>0,0075 | 205 (170 — 220)<br>670 (560 — 720) |
| M2  | E       | 0.100<br>0,100     | 4.0<br>4,0         | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065 | 170 (140 — 180)<br>560 (460 — 590) |
| M3  | E       | 0.100<br>0,100     | 4.0<br>4,0         | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065 | 130 (110 — 140)<br>425 (370 — 450) |
| M4  | E       | 0.100<br>0,100     | 4.0<br>4,0         | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.15<br>0,0060 | 100 (85 — 110)<br>330 (280 — 360)  |
| M5  | E       | 0.100<br>0,100     | 4.0<br>4,0         | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.15<br>0,0060 | 85 (71 — 96)<br>280 (240 — 310)    |
| S1  | E       | 0.0500<br>0,0500   | 4.0<br>4,0         | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.15<br>0,0060 | 70 (43 — 99)<br>230 (150 — 320)    |
| S2  | E       | 0.0500<br>0,0500   | 4.0<br>4,0         | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.15<br>0,0060 | 55 (35 — 80)<br>180 (120 — 260)    |
| S3  | E       | 0.0500<br>0,0500   | 4.0<br>4,0         | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055 | 50 (31 — 70)<br>165 (110 — 220)    |
| S11 | E       | 0.0800<br>0,0800   | 4.0<br>4,0         | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 160 (140 — 190)<br>520 (460 — 620) |
| S12 | E       | 0.0800<br>0,0800   | 4.0<br>4,0         | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048 | 125 (110 — 140)<br>410 (370 — 450) |
| S13 | E       | 0.0800<br>0,0800   | 4.0<br>4,0         | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040 | 100 (83 — 110)<br>330 (280 — 360)  |

If radius exceeds 15% of value DC please reduce fz with 20%

For cutting data recalculations, see pages 699 - 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

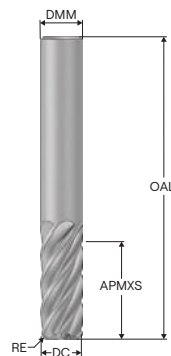
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

## JS720

High performance – Titanium – Square – 6 Flutes – Cylindrical – Corner radius



D

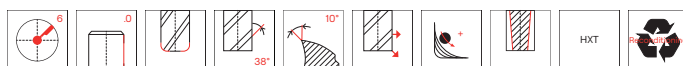
—Tolerances:

—DMM= h5

—DC= e7

—RE= ±0,02 mm

—Regrind possible



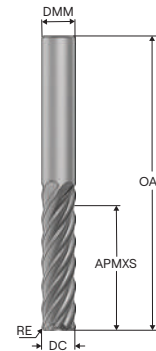
| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-------------|----------------|
|                        |             |              |            | mm   | mm   | mm    | mm    | mm  |       |             |                |
| JS720060D2R050.0Z6-HXT | 03060293    | 2            | D          | 6,0  | 6,0  | 17,0  | 57,0  | 0,5 | 6     | Cylindrical | ■              |
| JS720060D2R100.0Z6-HXT | 03060294    | 2            | D          | 6,0  | 6,0  | 17,0  | 57,0  | 1,0 | 6     | Cylindrical | ■              |
| JS720080D2R050.0Z6-HXT | 03060295    | 2            | D          | 8,0  | 8,0  | 23,0  | 63,0  | 0,5 | 6     | Cylindrical | ■              |
| JS720080D2R100.0Z6-HXT | 03061294    | 2            | D          | 8,0  | 8,0  | 23,0  | 63,0  | 1,0 | 6     | Cylindrical | ■              |
| JS720100D2R050.0Z6-HXT | 03060296    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 0,5 | 6     | Cylindrical | ■              |
| JS720100D2R100.0Z6-HXT | 03060298    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 1,0 | 6     | Cylindrical | ■              |
| JS720100D2R200.0Z6-HXT | 03060299    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 2,0 | 6     | Cylindrical | ■              |
| JS720100D2R300.0Z6-HXT | 03060300    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 3,0 | 6     | Cylindrical | ■              |
| JS720120D2R050.0Z6-HXT | 03060301    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 0,5 | 6     | Cylindrical | ■              |
| JS720120D2R100.0Z6-HXT | 03060304    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 1,0 | 6     | Cylindrical | ■              |
| JS720120D2R200.0Z6-HXT | 03060305    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 2,0 | 6     | Cylindrical | ■              |
| JS720120D2R300.0Z6-HXT | 03060306    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 3,0 | 6     | Cylindrical | ■              |
| JS720160D2R050.0Z6-HXT | 03060307    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 0,5 | 6     | Cylindrical | ■              |
| JS720160D2R100.0Z6-HXT | 03060309    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 1,0 | 6     | Cylindrical | ■              |
| JS720160D2R200.0Z6-HXT | 03060310    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 2,0 | 6     | Cylindrical | ■              |
| JS720160D2R300.0Z6-HXT | 03060311    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 3,0 | 6     | Cylindrical | ■              |
| JS720160D2R400.0Z6-HXT | 03060312    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 4,0 | 6     | Cylindrical | ■              |
| JS720160D2R600.0Z6-HXT | 03060313    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 6,0 | 6     | Cylindrical | ■              |
| JS720200D2R050.0Z6-HXT | 10228426    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 0,5 | 6     | Cylindrical | ■              |
| JS720200D2R100.0Z6-HXT | 10228427    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 1,0 | 6     | Cylindrical | ■              |
| JS720200D2R200.0Z6-HXT | 10228428    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 2,0 | 6     | Cylindrical | ■              |
| JS720200D2R300.0Z6-HXT | 10228429    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 3,0 | 6     | Cylindrical | ■              |
| JS720250D2R100.0Z6-HXT | 10228431    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 1,0 | 6     | Cylindrical | ■              |
| JS720250D2R300.0Z6-HXT | 03169498    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 3,0 | 6     | Cylindrical | ■              |

■ Stocked standard.



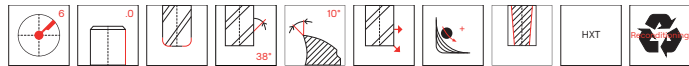
## JS720

High performance – Titanium – Square – 6 Flutes – Cylindrical – Corner radius



D

- Tolerances:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-------------|----------------|
|                        |             |              |            | mm   | mm   | mm    | mm    | mm  |       |             |                |
| JS720080D3R050.0Z6-HXT | 10228433    | 3            | D          | 8,0  | 8,0  | 32,0  | 80,0  | 0,5 | 6     | Cylindrical | ■              |
| JS720080D3R100.0Z6-HXT | 10228434    | 3            | D          | 8,0  | 8,0  | 32,0  | 80,0  | 1,0 | 6     | Cylindrical | ■              |
| JS720100D3R050.0Z6-HXT | 10228435    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 0,5 | 6     | Cylindrical | ■              |
| JS720100D3R100.0Z6-HXT | 10228436    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 1,0 | 6     | Cylindrical | ■              |
| JS720100D3R200.0Z6-HXT | 10228437    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 2,0 | 6     | Cylindrical | ■              |
| JS720120D3R050.0Z6-HXT | 10228438    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 0,5 | 6     | Cylindrical | ■              |
| JS720120D3R100.0Z6-HXT | 10228439    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 1,0 | 6     | Cylindrical | ■              |
| JS720120D3R200.0Z6-HXT | 10228440    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 2,0 | 6     | Cylindrical | ■              |
| JS720160D3R050.0Z6-HXT | 10228441    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 0,5 | 6     | Cylindrical | ■              |
| JS720160D3R100.0Z6-HXT | 10228442    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 1,0 | 6     | Cylindrical | ■              |
| JS720160D3R200.0Z6-HXT | 10228443    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 2,0 | 6     | Cylindrical | ■              |
| JS720160D3R300.0Z6-HXT | 03169497    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 3,0 | 6     | Cylindrical | ■              |
| JS720200D3R050.0Z6-HXT | 03060314    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 0,5 | 6     | Cylindrical | ■              |
| JS720200D3R100.0Z6-HXT | 03060316    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 1,0 | 6     | Cylindrical | ■              |
| JS720200D3R200.0Z6-HXT | 03060317    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 2,0 | 6     | Cylindrical | ■              |
| JS720200D3R300.0Z6-HXT | 03060318    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 3,0 | 6     | Cylindrical | ■              |
| JS720200D3R400.0Z6-HXT | 03060319    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 4,0 | 6     | Cylindrical | ■              |
| JS720200D3R500.0Z6-HXT | 03060320    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 5,0 | 6     | Cylindrical | ■              |
| JS720200D3R600.0Z6-HXT | 03060321    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 6,0 | 6     | Cylindrical | ■              |
| JS720250D3R050.0Z6-HXT | 03060322    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 0,5 | 6     | Cylindrical | ■              |
| JS720250D3R100.0Z6-HXT | 03060323    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 1,0 | 6     | Cylindrical | ■              |
| JS720250D3R200.0Z6-HXT | 03060324    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 2,0 | 6     | Cylindrical | ■              |
| JS720250D3R300.0Z6-HXT | 03060325    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 3,0 | 6     | Cylindrical | ■              |
| JS720250D3R400.0Z6-HXT | 03060326    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 4,0 | 6     | Cylindrical | ■              |
| JS720250D3R600.0Z6-HXT | 03060327    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 6,0 | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

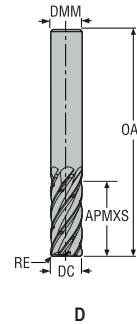
Graphite

X-Heads

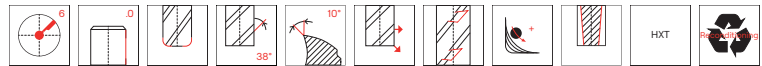
Minimaster

### JS720

High performance – Titanium – Square – 6 Flutes – Cylindrical – Corner radius



—Tolerances:  
—DMM= h5  
—DC= e7  
—RE= ±0,02 mm  
—Regrind possible

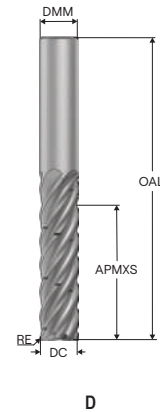


| Designation             | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL  | RE  | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|----------------|------|------|-------|------|-----|-------|-------------|----------------|
| JS720080D2R050.0Z6C-HXT | 10228513    | 2            | D          | ■              | 8,0  | 8,0  | 23,0  | 63,0 | 0,5 | 6     | Cylindrical | ■              |
| JS720080D2R100.0Z6C-HXT | 10228514    | 2            | D          | ■              | 8,0  | 8,0  | 23,0  | 63,0 | 1,0 | 6     | Cylindrical | ■              |
| JS720100D2R050.0Z6C-HXT | 03060297    | 2            | D          | ■              | 10,0 | 10,0 | 26,0  | 72,0 | 0,5 | 6     | Cylindrical | ■              |
| JS720100D2R100.0Z6C-HXT | 10228515    | 2            | D          | ■              | 10,0 | 10,0 | 26,0  | 72,0 | 1,0 | 6     | Cylindrical | ■              |
| JS720120D2R050.0Z6C-HXT | 03060302    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 0,5 | 6     | Cylindrical | ■              |
| JS720120D2R100.0Z6C-HXT | 03298280    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 1,0 | 6     | Cylindrical | ■              |
| JS720120D2R200.0Z6C-HXT | 03298281    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 2,0 | 6     | Cylindrical | ■              |
| JS720120D2R250.0Z6C-HXT | 03298282    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 2,5 | 6     | Cylindrical | ■              |
| JS720120D2R300.0Z6C-HXT | 03298283    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 3,0 | 6     | Cylindrical | ■              |
| JS720120D2R310.0Z6C-HXT | 03298284    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 3,1 | 6     | Cylindrical | ■              |
| JS720160D2R050.0Z6C-HXT | 03060308    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 0,5 | 6     | Cylindrical | ■              |
| JS720160D2R100.0Z6C-HXT | 03298285    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 1,0 | 6     | Cylindrical | ■              |
| JS720160D2R200.0Z6C-HXT | 03298286    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 2,0 | 6     | Cylindrical | ■              |
| JS720160D2R250.0Z6C-HXT | 03298287    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 2,5 | 6     | Cylindrical | ■              |
| JS720160D2R300.0Z6C-HXT | 03298288    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 3,0 | 6     | Cylindrical | ■              |
| JS720160D2R400.0Z6C-HXT | 03298290    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 4,0 | 6     | Cylindrical | ■              |
| JS720160D2R600.0Z6C-HXT | 03298291    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 6,0 | 6     | Cylindrical | ■              |

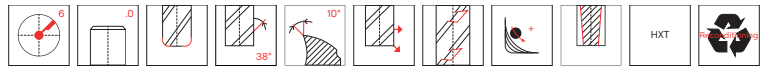
■ Stocked standard.

## JS720

High performance – Titanium – Square – 6 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible



| Designation             | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|----------------|------|------|-------|-------|-----|-------|-------------|----------------|
|                         |             |              |            |                | mm   | mm   | mm    | mm    | mm  |       |             |                |
| JS720160D3R050.0Z6C-HXT | 10228516    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 0,5 | 6     | Cylindrical | ■              |
| JS720160D3R100.0Z6C-HXT | 10228517    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 1,0 | 6     | Cylindrical | ■              |
| JS720160D3R200.0Z6C-HXT | 10228518    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 2,0 | 6     | Cylindrical | ■              |
| JS720160D3R300.0Z6C-HXT | 10228519    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 3,0 | 6     | Cylindrical | ■              |
| JS720200D3R050.0Z6C-HXT | 03060315    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 0,5 | 6     | Cylindrical | ■              |
| JS720200D3R100.0Z6C-HXT | 03298292    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 1,0 | 6     | Cylindrical | ■              |
| JS720200D3R300.0Z6C-HXT | 03298295    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 3,0 | 6     | Cylindrical | ■              |
| JS720200D3R400.0Z6C-HXT | 03298297    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 4,0 | 6     | Cylindrical | ■              |
| JS720200D3R500.0Z6C-HXT | 03298298    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 5,0 | 6     | Cylindrical | ■              |
| JS720200D3R600.0Z6C-HXT | 03298299    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 6,0 | 6     | Cylindrical | ■              |
| JS720250D3R050.0Z6C-HXT | 03066270    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 0,5 | 6     | Cylindrical | ■              |
| JS720250D3R400.0Z6C-HXT | 03298303    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 4,0 | 6     | Cylindrical | ■              |
| JS720250D3R600.0Z6C-HXT | 03298304    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 6,0 | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

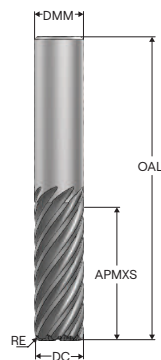
Graphite

X-Heads

Minimaster

## JS720

High performance – Titanium – Square – 9 Flutes – Cylindrical – Corner radius



D

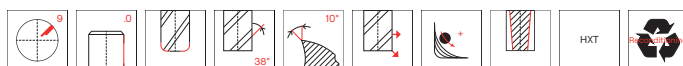
—Tolerances:

—DMM= h5

—DC= e7

—RE= ±0,02 mm

—Regrind possible

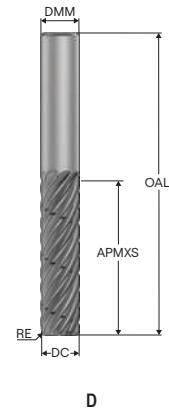


| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-------------|----------------|
| JS720100D2R050.0Z9-HXT | 10067510    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 0,5 | 9     | Cylindrical | ■              |
| JS720100D2R100.0Z9-HXT | 10067511    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 1,0 | 9     | Cylindrical | ■              |
| JS720100D2R200.0Z9-HXT | 10067512    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 2,0 | 9     | Cylindrical | ■              |
| JS720120D2R050.0Z9-HXT | 10067513    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 0,5 | 9     | Cylindrical | ■              |
| JS720120D2R100.0Z9-HXT | 10067514    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 1,0 | 9     | Cylindrical | ■              |
| JS720120D2R200.0Z9-HXT | 10067515    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 2,0 | 9     | Cylindrical | ■              |
| JS720160D2R100.0Z9-HXT | 10008152    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 1,0 | 9     | Cylindrical | ■              |
| JS720160D2R200.0Z9-HXT | 10008153    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 2,0 | 9     | Cylindrical | ■              |
| JS720160D2R300.0Z9-HXT | 10008154    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 3,0 | 9     | Cylindrical | ■              |
| JS720200D2R100.0Z9-HXT | 10228393    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 1,0 | 9     | Cylindrical | ■              |
| JS720200D2R200.0Z9-HXT | 10228394    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 2,0 | 9     | Cylindrical | ■              |
| JS720200D2R300.0Z9-HXT | 10228395    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 3,0 | 9     | Cylindrical | ■              |
| JS720250D2R100.0Z9-HXT | 10008155    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 1,0 | 9     | Cylindrical | ■              |
| JS720250D2R200.0Z9-HXT | 10008156    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 2,0 | 9     | Cylindrical | ■              |
| JS720250D2R300.0Z9-HXT | 10008157    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 3,0 | 9     | Cylindrical | ■              |
| JS720100D3R050.0Z9-HXT | 10067516    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 0,5 | 9     | Cylindrical | ■              |
| JS720100D3R100.0Z9-HXT | 10067517    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 1,0 | 9     | Cylindrical | ■              |
| JS720100D3R200.0Z9-HXT | 10067518    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 2,0 | 9     | Cylindrical | ■              |
| JS720120D3R050.0Z9-HXT | 10067519    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 0,5 | 9     | Cylindrical | ■              |
| JS720120D3R100.0Z9-HXT | 10067520    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 1,0 | 9     | Cylindrical | ■              |
| JS720120D3R200.0Z9-HXT | 10067521    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 2,0 | 9     | Cylindrical | ■              |
| JS720160D3R100.0Z9-HXT | 10008158    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 1,0 | 9     | Cylindrical | ■              |
| JS720160D3R200.0Z9-HXT | 10008159    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 2,0 | 9     | Cylindrical | ■              |
| JS720160D3R300.0Z9-HXT | 10008160    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 3,0 | 9     | Cylindrical | ■              |
| JS720200D3R100.0Z9-HXT | 10008161    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 1,0 | 9     | Cylindrical | ■              |
| JS720200D3R200.0Z9-HXT | 10008162    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 2,0 | 9     | Cylindrical | ■              |
| JS720200D3R300.0Z9-HXT | 10008163    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 3,0 | 9     | Cylindrical | ■              |
| JS720250D3R100.0Z9-HXT | 10008164    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 1,0 | 9     | Cylindrical | ■              |
| JS720250D3R300.0Z9-HXT | 10008166    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 3,0 | 9     | Cylindrical | ■              |

■ Stocked standard.

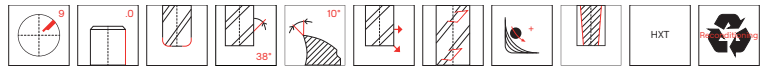
## JS720

High performance – Titanium – Square – 9 Flutes – Cylindrical – Corner radius



D

- Tolerances:
- DMM= h5
- DC= e7
- RE=  $\pm 0,02$  mm
- Regrind possible



| Designation             | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|----------------|------|------|-------|-------|-----|-------|-------------|----------------|
|                         |             |              |            |                | mm   | mm   | mm    | mm    | mm  |       |             |                |
| JS720100D3R050.0Z9C-HXT | 10067522    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 89,0  | 0,5 | 9     | Cylindrical | ■              |
| JS720100D3R100.0Z9C-HXT | 10067523    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 89,0  | 1,0 | 9     | Cylindrical | ■              |
| JS720100D3R200.0Z9C-HXT | 10067524    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 89,0  | 2,0 | 9     | Cylindrical | ■              |
| JS720120D3R050.0Z9C-HXT | 10067525    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 0,5 | 9     | Cylindrical | ■              |
| JS720120D3R100.0Z9C-HXT | 10067526    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 1,0 | 9     | Cylindrical | ■              |
| JS720120D3R200.0Z9C-HXT | 10067527    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 2,0 | 9     | Cylindrical | ■              |
| JS720160D3R100.0Z9C-HXT | 10067528    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 1,0 | 9     | Cylindrical | ■              |
| JS720160D3R200.0Z9C-HXT | 10067529    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 2,0 | 9     | Cylindrical | ■              |
| JS720160D3R300.0Z9C-HXT | 10067530    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 3,0 | 9     | Cylindrical | ■              |
| JS720200D3R100.0Z9C-HXT | 10067531    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 1,0 | 9     | Cylindrical | ■              |
| JS720200D3R200.0Z9C-HXT | 10067532    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 2,0 | 9     | Cylindrical | ■              |
| JS720200D3R300.0Z9C-HXT | 10067533    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 3,0 | 9     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

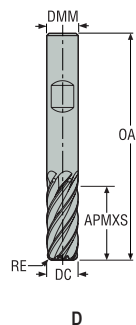
Graphite

X-Heads

Minimaster

## JS720

High performance – Titanium – Square – 6 Flutes – Weldon – Corner radius



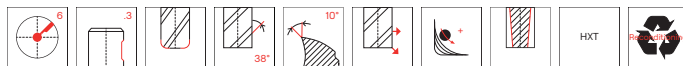
—Tolerances:

—DMM= h5

—DC= e7

—RE= ±0,02 mm

—Regrind possible

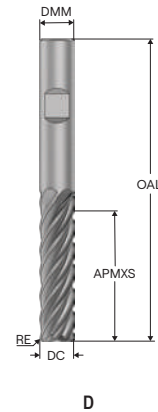


| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank  | Stock standard                      |
|------------------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|--------|-------------------------------------|
|                        |             |              |            | mm   | mm   | mm    | mm    | mm  |       |        |                                     |
| JS720060D2R050.3Z6-HXT | 03060339    | 2            | D          | 6,0  | 6,0  | 17,0  | 57,0  | 0,5 | 6     | Weldon | <input type="checkbox"/>            |
| JS720060D2R100.3Z6-HXT | 03060340    | 2            | D          | 6,0  | 6,0  | 17,0  | 57,0  | 1,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720080D2R050.3Z6-HXT | 03060341    | 2            | D          | 8,0  | 8,0  | 23,0  | 63,0  | 0,5 | 6     | Weldon | <input type="checkbox"/>            |
| JS720080D2R100.3Z6-HXT | 03061295    | 2            | D          | 8,0  | 8,0  | 23,0  | 63,0  | 1,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720100D2R050.3Z6-HXT | 03060342    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 0,5 | 6     | Weldon | <input type="checkbox"/>            |
| JS720100D2R100.3Z6-HXT | 03060344    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 1,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720100D2R200.3Z6-HXT | 03060345    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 2,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720100D2R300.3Z6-HXT | 03060346    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 3,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720120D2R050.3Z6-HXT | 03060347    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 0,5 | 6     | Weldon | <input type="checkbox"/>            |
| JS720120D2R100.3Z6-HXT | 03060349    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 1,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720120D2R200.3Z6-HXT | 03060350    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 2,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720120D2R300.3Z6-HXT | 03060351    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 3,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720160D2R050.3Z6-HXT | 03060352    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 0,5 | 6     | Weldon | <input type="checkbox"/>            |
| JS720160D2R100.3Z6-HXT | 03060354    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 1,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720160D2R200.3Z6-HXT | 03060355    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 2,0 | 6     | Weldon | <input checked="" type="checkbox"/> |
| JS720160D2R300.3Z6-HXT | 03060356    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 3,0 | 6     | Weldon | <input checked="" type="checkbox"/> |
| JS720160D2R400.3Z6-HXT | 03060357    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 4,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720160D2R600.3Z6-HXT | 03060358    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 6,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720200D2R050.3Z6-HXT | 10228444    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 0,5 | 6     | Weldon | <input type="checkbox"/>            |
| JS720200D2R100.3Z6-HXT | 10228445    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 1,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720200D2R200.3Z6-HXT | 10228446    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 2,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720200D2R300.3Z6-HXT | 10228447    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 3,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720250D2R050.3Z6-HXT | 10228448    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 0,5 | 6     | Weldon | <input type="checkbox"/>            |
| JS720250D2R100.3Z6-HXT | 10228449    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 1,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720250D2R200.3Z6-HXT | 10228450    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 2,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720250D2R300.3Z6-HXT | 10228451    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 3,0 | 6     | Weldon | <input type="checkbox"/>            |

☒ Stocked standard. ☐ Weldon available. Delivery time is 3 days.

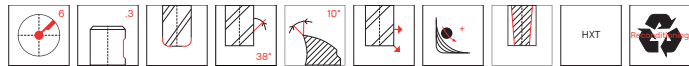
## JS720

High performance – Titanium – Square – 6 Flutes – Weldon – Corner radius



D

- Tolerances:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank  | Stock standard                      |
|------------------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|--------|-------------------------------------|
|                        |             |              |            | mm   | mm   | mm    | mm    | mm  |       |        |                                     |
| JS720080D3R050.3Z6-HXT | 10228452    | 3            | D          | 8,0  | 8,0  | 32,0  | 80,0  | 0,5 | 6     | Weldon | <input type="checkbox"/>            |
| JS720080D3R100.3Z6-HXT | 10228453    | 3            | D          | 8,0  | 8,0  | 32,0  | 80,0  | 1,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720100D3R050.3Z6-HXT | 10228454    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 0,5 | 6     | Weldon | <input type="checkbox"/>            |
| JS720100D3R100.3Z6-HXT | 10228455    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 1,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720100D3R200.3Z6-HXT | 10228456    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 2,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720120D3R050.3Z6-HXT | 10228457    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 0,5 | 6     | Weldon | <input type="checkbox"/>            |
| JS720120D3R100.3Z6-HXT | 10228458    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 1,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720120D3R200.3Z6-HXT | 10228459    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 2,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720160D3R050.3Z6-HXT | 10228460    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 0,5 | 6     | Weldon | <input type="checkbox"/>            |
| JS720160D3R100.3Z6-HXT | 10228461    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 1,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720160D3R200.3Z6-HXT | 10228462    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 2,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720160D3R300.3Z6-HXT | 10228463    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 3,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720200D3R050.3Z6-HXT | 03060359    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 0,5 | 6     | Weldon | <input type="checkbox"/>            |
| JS720200D3R100.3Z6-HXT | 03060361    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 1,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720200D3R200.3Z6-HXT | 03060362    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 2,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720200D3R300.3Z6-HXT | 03060363    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 3,0 | 6     | Weldon | <input checked="" type="checkbox"/> |
| JS720200D3R400.3Z6-HXT | 03060364    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 4,0 | 6     | Weldon | <input checked="" type="checkbox"/> |
| JS720200D3R500.3Z6-HXT | 03060365    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 5,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720200D3R600.3Z6-HXT | 03060366    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 6,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720250D3R050.3Z6-HXT | 03060367    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 0,5 | 6     | Weldon | <input type="checkbox"/>            |
| JS720250D3R100.3Z6-HXT | 03060368    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 1,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720250D3R200.3Z6-HXT | 03060369    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 2,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720250D3R300.3Z6-HXT | 03060370    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 3,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS720250D3R400.3Z6-HXT | 03060371    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 4,0 | 6     | Weldon | <input checked="" type="checkbox"/> |
| JS720250D3R600.3Z6-HXT | 03060372    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 6,0 | 6     | Weldon | <input type="checkbox"/>            |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

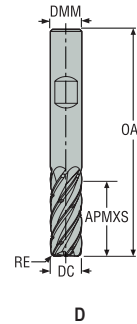
Graphite

X-Heads

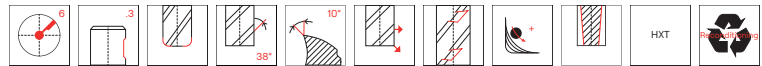
Minimaster

### JS720

High performance – Titanium – Square – 6 Flutes – Weldon – Corner radius



—Tolerances:  
—DMM= h5  
—DC= e7  
—RE= ±0,02 mm  
—Regrind possible



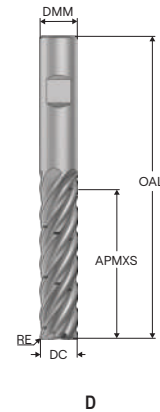
| Designation             | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL  | RE  | PCEDC | Shank  | Stock standard |
|-------------------------|-------------|--------------|------------|----------------|------|------|-------|------|-----|-------|--------|----------------|
| JS720080D2R050.3Z6C-HXT | 10228520    | 2            | D          | ■              | 8,0  | 8,0  | 23,0  | 63,0 | 0,5 | 6     | Weldon | □              |
| JS720080D2R100.3Z6C-HXT | 10228521    | 2            | D          | ■              | 8,0  | 8,0  | 23,0  | 63,0 | 1,0 | 6     | Weldon | □              |
| JS720100D2R050.3Z6C-HXT | 03060343    | 2            | D          | ■              | 10,0 | 10,0 | 26,0  | 72,0 | 0,5 | 6     | Weldon | □              |
| JS720100D2R100.3Z6C-HXT | 10228522    | 2            | D          | ■              | 10,0 | 10,0 | 26,0  | 72,0 | 1,0 | 6     | Weldon | □              |
| JS720120D2R050.3Z6C-HXT | 03060348    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 0,5 | 6     | Weldon | □              |
| JS720120D2R100.3Z6C-HXT | 03298308    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 1,0 | 6     | Weldon | □              |
| JS720120D2R200.3Z6C-HXT | 03298309    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 2,0 | 6     | Weldon | □              |
| JS720120D2R250.3Z6C-HXT | 03298310    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 2,5 | 6     | Weldon | □              |
| JS720120D2R300.3Z6C-HXT | 03298311    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 3,0 | 6     | Weldon | □              |
| JS720120D2R310.3Z6C-HXT | 03298312    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 3,1 | 6     | Weldon | □              |
| JS720160D2R050.3Z6C-HXT | 03060353    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 0,5 | 6     | Weldon | ■              |
| JS720160D2R100.3Z6C-HXT | 03298313    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 1,0 | 6     | Weldon | ■              |
| JS720160D2R200.3Z6C-HXT | 03298314    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 2,0 | 6     | Weldon | ■              |
| JS720160D2R250.3Z6C-HXT | 03298315    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 2,5 | 6     | Weldon | ■              |
| JS720160D2R300.3Z6C-HXT | 03298316    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 3,0 | 6     | Weldon | ■              |
| JS720160D2R400.3Z6C-HXT | 03298318    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 4,0 | 6     | Weldon | ■              |
| JS720160D2R600.3Z6C-HXT | 03298319    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 6,0 | 6     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.



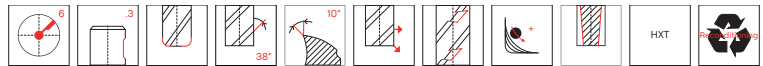
## JS720

High performance – Titanium – Square – 6 Flutes – Weldon – Corner radius



D

- Tolerances:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible



| Designation             | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank  | Stock standard |
|-------------------------|-------------|--------------|------------|----------------|------|------|-------|-------|-----|-------|--------|----------------|
|                         |             |              |            |                | mm   | mm   | mm    | mm    | mm  |       |        |                |
| JS720160D3R050.3Z6C-HXT | 10228523    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 0,5 | 6     | Weldon | □              |
| JS720160D3R100.3Z6C-HXT | 10228524    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 1,0 | 6     | Weldon | □              |
| JS720160D3R200.3Z6C-HXT | 10228525    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 2,0 | 6     | Weldon | □              |
| JS720160D3R300.3Z6C-HXT | 10228526    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 3,0 | 6     | Weldon | □              |
| JS720200D3R050.3Z6C-HXT | 03060360    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 0,5 | 6     | Weldon | ■              |
| JS720200D3R100.3Z6C-HXT | 03298320    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 1,0 | 6     | Weldon | ■              |
| JS720200D3R200.3Z6C-HXT | 03298321    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 2,0 | 6     | Weldon | ■              |
| JS720200D3R250.3Z6C-HXT | 03298322    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 2,5 | 6     | Weldon | ■              |
| JS720200D3R300.3Z6C-HXT | 03298323    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 3,0 | 6     | Weldon | ■              |
| JS720200D3R400.3Z6C-HXT | 03298325    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 4,0 | 6     | Weldon | ■              |
| JS720200D3R500.3Z6C-HXT | 03298326    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 5,0 | 6     | Weldon | ■              |
| JS720200D3R600.3Z6C-HXT | 03298327    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 6,0 | 6     | Weldon | ■              |
| JS720250D3R050.3Z6C-HXT | 03066460    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 0,5 | 6     | Weldon | ■              |
| JS720250D3R100.3Z6C-HXT | 03298328    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 1,0 | 6     | Weldon | ■              |
| JS720250D3R300.3Z6C-HXT | 03298330    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 3,0 | 6     | Weldon | ■              |
| JS720250D3R400.3Z6C-HXT | 03298331    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 4,0 | 6     | Weldon | ■              |
| JS720250D3R600.3Z6C-HXT | 03298332    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 6,0 | 6     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

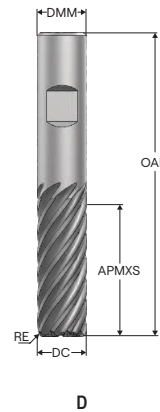
Graphite

X-Heads

Minimaster

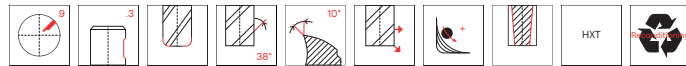
### JS720

High performance – Titanium – Square – 9 Flutes – Weldon – Corner radius



D

—Tolerances:  
—DMM= h5  
—DC= e7  
—RE= ±0,02 mm  
—Regrind possible

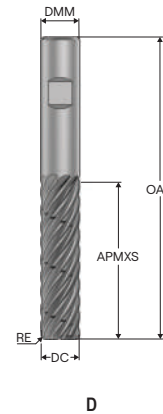


| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank  | Stock standard           |
|------------------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|--------|--------------------------|
| JS720100D2R050.3Z9-HXT | 10067881    | 2            | D          | mm   | mm   | mm    | mm    | mm  |       |        |                          |
| JS720100D2R100.3Z9-HXT | 10067882    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 0,5 | 9     | Weldon | <input type="checkbox"/> |
| JS720100D2R200.3Z9-HXT | 10067883    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720120D2R050.3Z9-HXT | 10067884    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 0,5 | 9     | Weldon | <input type="checkbox"/> |
| JS720120D2R100.3Z9-HXT | 10067885    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720120D2R200.3Z9-HXT | 10067886    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 2,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720160D2R100.3Z9-HXT | 10008279    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720160D2R200.3Z9-HXT | 10008280    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 2,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720160D2R300.3Z9-HXT | 10008281    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 3,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720200D2R100.3Z9-HXT | 10228396    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720200D2R200.3Z9-HXT | 10228397    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 2,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720200D2R300.3Z9-HXT | 10228398    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 3,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720250D2R100.3Z9-HXT | 10008282    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720250D2R200.3Z9-HXT | 10008283    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 2,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720250D2R300.3Z9-HXT | 10008284    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 3,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720100D3R050.3Z9-HXT | 10067887    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 0,5 | 9     | Weldon | <input type="checkbox"/> |
| JS720100D3R100.3Z9-HXT | 10067888    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720100D3R200.3Z9-HXT | 10067889    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 2,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720120D3R050.3Z9-HXT | 10067890    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 0,5 | 9     | Weldon | <input type="checkbox"/> |
| JS720120D3R100.3Z9-HXT | 10067891    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720120D3R200.3Z9-HXT | 10067892    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 2,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720160D3R100.3Z9-HXT | 10008285    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720160D3R200.3Z9-HXT | 10008286    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 2,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720160D3R300.3Z9-HXT | 10008287    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 3,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720200D3R100.3Z9-HXT | 10008288    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720200D3R200.3Z9-HXT | 10008289    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 2,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720200D3R300.3Z9-HXT | 10008290    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 3,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720250D3R100.3Z9-HXT | 10008292    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720250D3R200.3Z9-HXT | 10008293    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 2,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720250D3R300.3Z9-HXT | 10008294    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 3,0 | 9     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

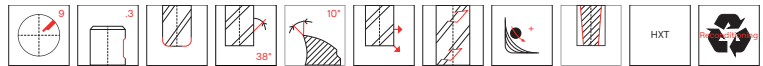
## JS720

High performance – Titanium – Square – 9 Flutes – Weldon – Corner radius



D

- Tolerances:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible



| Designation             | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank  | Stock standard           |
|-------------------------|-------------|--------------|------------|----------------|------|------|-------|-------|-----|-------|--------|--------------------------|
|                         |             |              |            |                | mm   | mm   | mm    | mm    | mm  |       |        |                          |
| JS720100D3R050.3Z9C-HXT | 10067893    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 89,0  | 0,5 | 9     | Weldon | <input type="checkbox"/> |
| JS720100D3R100.3Z9C-HXT | 10067894    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 89,0  | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720100D3R200.3Z9C-HXT | 10067895    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 89,0  | 2,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720120D3R050.3Z9C-HXT | 10067897    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 0,5 | 9     | Weldon | <input type="checkbox"/> |
| JS720120D3R100.3Z9C-HXT | 10067898    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720120D3R200.3Z9C-HXT | 10067899    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 2,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720160D3R100.3Z9C-HXT | 10067900    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720160D3R200.3Z9C-HXT | 10067901    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 2,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720160D3R300.3Z9C-HXT | 10067902    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 3,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720200D3R100.3Z9C-HXT | 10067903    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720200D3R200.3Z9C-HXT | 10067904    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 2,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720200D3R300.3Z9C-HXT | 10067905    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 3,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720250D3R100.3Z9C-HXT | 10067906    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 1,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720250D3R200.3Z9C-HXT | 10067907    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 2,0 | 9     | Weldon | <input type="checkbox"/> |
| JS720250D3R300.3Z9C-HXT | 10067908    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 3,0 | 9     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

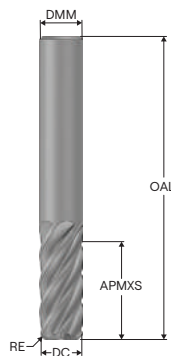
Graphite

X-Heads

Minimaster

## JS720

High performance – Titanium – Square – 6 Flutes – Safelock – Corner radius



D

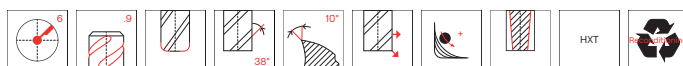
—Tolerances:

—DMM= h5

—DC= e7

—RE= ±0,02 mm

—Regrind possible

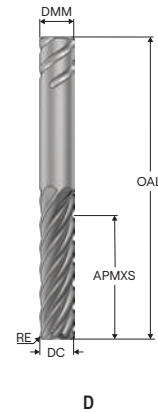


| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank     | Stock standard           |
|------------------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-----------|--------------------------|
|                        |             |              |            | mm   | mm   | mm    | mm    | mm  |       |           |                          |
| JS720060D2R050.9Z6-HXT | 03060374    | 2            | D          | 6,0  | 6,0  | 17,0  | 57,0  | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720060D2R100.9Z6-HXT | 03060375    | 2            | D          | 6,0  | 6,0  | 17,0  | 57,0  | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720080D2R050.9Z6-HXT | 03060376    | 2            | D          | 8,0  | 8,0  | 23,0  | 63,0  | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720080D2R100.9Z6-HXT | 03061296    | 2            | D          | 8,0  | 8,0  | 23,0  | 63,0  | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720100D2R050.9Z6-HXT | 03060377    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720100D2R100.9Z6-HXT | 03060379    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720100D2R200.9Z6-HXT | 03060380    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720100D2R300.9Z6-HXT | 03060381    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 3,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720120D2R050.9Z6-HXT | 03060382    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720120D2R100.9Z6-HXT | 03060384    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720120D2R200.9Z6-HXT | 03060385    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720120D2R300.9Z6-HXT | 03060386    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 3,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R050.9Z6-HXT | 03060387    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R100.9Z6-HXT | 03060389    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R200.9Z6-HXT | 03060390    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R300.9Z6-HXT | 03060391    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 3,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R400.9Z6-HXT | 03060392    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 4,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R600.9Z6-HXT | 03060393    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 6,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D2R050.9Z6-HXT | 10228464    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D2R100.9Z6-HXT | 10228465    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D2R200.9Z6-HXT | 10228467    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D2R300.9Z6-HXT | 10228468    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 3,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D2R050.9Z6-HXT | 10228469    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D2R100.9Z6-HXT | 10228470    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D2R200.9Z6-HXT | 10228471    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D2R300.9Z6-HXT | 10228472    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 3,0 | 6     | Safe-lock | <input type="checkbox"/> |

☐ Safelock available. Delivery time is 6 days.

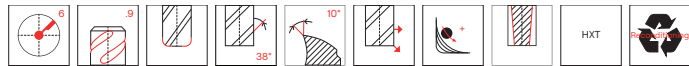
## JS720

High performance – Titanium – Square – 6 Flutes – Safelock – Corner radius



D

- Tolerances:
- DMM= h5
- DC= e7
- RE=  $\pm 0,02$  mm
- Regrind possible



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank     | Stock standard           |
|------------------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-----------|--------------------------|
|                        |             |              |            | mm   | mm   | mm    | mm    | mm  |       |           |                          |
| JS720080D3R050.9Z6-HXT | 10228473    | 3            | D          | 8,0  | 8,0  | 32,0  | 80,0  | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720080D3R100.9Z6-HXT | 10228474    | 3            | D          | 8,0  | 8,0  | 32,0  | 80,0  | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720100D3R050.9Z6-HXT | 10228475    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720100D3R100.9Z6-HXT | 10228476    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720100D3R200.9Z6-HXT | 10228477    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720120D3R050.9Z6-HXT | 10228478    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720120D3R100.9Z6-HXT | 10228479    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720120D3R200.9Z6-HXT | 10228480    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D3R050.9Z6-HXT | 10228481    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D3R100.9Z6-HXT | 10228482    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D3R200.9Z6-HXT | 10228483    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D3R300.9Z6-HXT | 10228484    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 3,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R050.9Z6-HXT | 03060394    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R100.9Z6-HXT | 03060396    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R200.9Z6-HXT | 03060397    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R300.9Z6-HXT | 03060398    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 3,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R400.9Z6-HXT | 03060399    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 4,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R500.9Z6-HXT | 03060400    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 5,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R600.9Z6-HXT | 03060401    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 6,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R050.9Z6-HXT | 03060402    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R100.9Z6-HXT | 03060403    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R200.9Z6-HXT | 03060404    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R300.9Z6-HXT | 03060405    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 3,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R400.9Z6-HXT | 03060406    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 4,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R600.9Z6-HXT | 03060407    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 6,0 | 6     | Safe-lock | <input type="checkbox"/> |

☐ Safelock available. Delivery time is 6 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

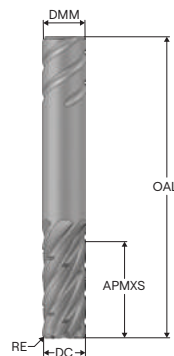
Graphite

X-Heads

Minimaster

### JS720

High performance – Titanium – Square – 6 Flutes – Safelock – Corner radius



D

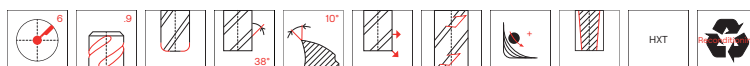
—Tolerances:

—DMM= h5

—DC= e7

—RE= ±0,02 mm

—Regrind possible

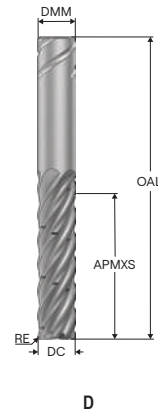


| Designation             | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL  | RE  | PCEDC | Shank     | Stock standard           |
|-------------------------|-------------|--------------|------------|----------------|------|------|-------|------|-----|-------|-----------|--------------------------|
| JS720080D2R050.9Z6C-HXT | 10228527    | 2            | D          | ■              | 8,0  | 8,0  | 23,0  | 63,0 | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720080D2R100.9Z6C-HXT | 10228528    | 2            | D          | ■              | 8,0  | 8,0  | 23,0  | 63,0 | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720100D2R050.9Z6C-HXT | 03060378    | 2            | D          | ■              | 10,0 | 10,0 | 26,0  | 72,0 | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720100D2R100.9Z6C-HXT | 10228529    | 2            | D          | ■              | 10,0 | 10,0 | 26,0  | 72,0 | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720120D2R050.9Z6C-HXT | 03060383    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720120D2R100.9Z6C-HXT | 03298334    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720120D2R200.9Z6C-HXT | 03298335    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720120D2R250.9Z6C-HXT | 03298336    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 2,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720120D2R300.9Z6C-HXT | 03298337    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 3,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720120D2R310.9Z6C-HXT | 03298338    | 2            | D          | ■              | 12,0 | 12,0 | 30,0  | 83,0 | 3,1 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R050.9Z6C-HXT | 03060388    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 0,5 | 6     | Safe-lock | ■                        |
| JS720160D2R100.9Z6C-HXT | 03298339    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R200.9Z6C-HXT | 03298340    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R250.9Z6C-HXT | 03298341    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 2,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R300.9Z6C-HXT | 03298342    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 3,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R310.9Z6C-HXT | 03298343    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 3,1 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R400.9Z6C-HXT | 03298344    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 4,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R600.9Z6C-HXT | 03298345    | 2            | D          | ■              | 16,0 | 16,0 | 44,0  | 99,0 | 6,0 | 6     | Safe-lock | <input type="checkbox"/> |

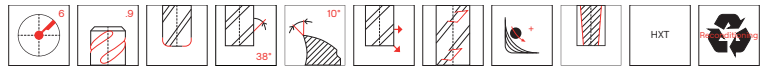
☐ Safelock available. Delivery time is 6 days. ■ Stocked standard.

## JS720

High performance – Titanium – Square – 6 Flutes – Safelock – Corner radius



- Tolerances:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible



| Designation             | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank     | Stock standard           |
|-------------------------|-------------|--------------|------------|----------------|------|------|-------|-------|-----|-------|-----------|--------------------------|
|                         |             |              |            |                | mm   | mm   | mm    | mm    | mm  |       |           |                          |
| JS720160D3R050.9Z6C-HXT | 10228530    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D3R100.9Z6C-HXT | 10228531    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D3R200.9Z6C-HXT | 10228532    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720160D3R300.9Z6C-HXT | 10228533    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 3,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R050.9Z6C-HXT | 03060395    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R100.9Z6C-HXT | 03298346    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R200.9Z6C-HXT | 03298347    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R250.9Z6C-HXT | 03298348    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 2,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R300.9Z6C-HXT | 03298349    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 3,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R310.9Z6C-HXT | 03298350    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 3,1 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R400.9Z6C-HXT | 03298351    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 4,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R500.9Z6C-HXT | 03298352    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 5,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R600.9Z6C-HXT | 03298353    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 6,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R050.9Z6C-HXT | 03066461    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 0,5 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R100.9Z6C-HXT | 03298354    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 1,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R200.9Z6C-HXT | 03298355    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 2,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R300.9Z6C-HXT | 03298356    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 3,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R400.9Z6C-HXT | 03298357    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 4,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R600.9Z6C-HXT | 03298358    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 6,0 | 6     | Safe-lock | <input type="checkbox"/> |

☐ Safelock available. Delivery time is 6 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

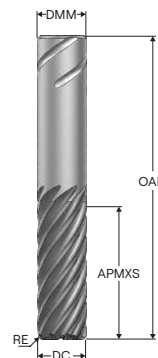
Graphite

X-Heads

Minimaster

## JS720

High performance – Titanium – Square – 9 Flutes – Safelock – Corner radius



D

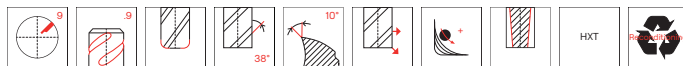
—Tolerances:

—DMM= h5

—DC= e7

—RE= ±0,02 mm

—Regrind possible



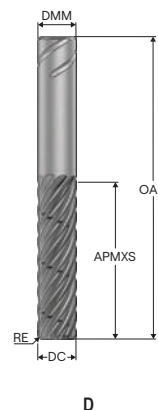
| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank     | Stock standard           |
|------------------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-----------|--------------------------|
| JS720100D2R050.9Z9-HXT | 10067909    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 0,5 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720100D2R100.9Z9-HXT | 10067910    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720100D2R200.9Z9-HXT | 10067911    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720120D2R050.9Z9-HXT | 10067912    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 0,5 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720120D2R100.9Z9-HXT | 10067913    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720120D2R200.9Z9-HXT | 10067914    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R100.9Z9-HXT | 10008295    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R200.9Z9-HXT | 10008296    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720160D2R300.9Z9-HXT | 10008297    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 3,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720200D2R100.9Z9-HXT | 10228399    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720200D2R200.9Z9-HXT | 10228400    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720200D2R300.9Z9-HXT | 10228401    | 2            | D          | 20,0 | 20,0 | 45,0  | 105,0 | 3,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720250D2R100.9Z9-HXT | 10008298    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720250D2R200.9Z9-HXT | 10008299    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720250D2R300.9Z9-HXT | 10008300    | 2            | D          | 25,0 | 25,0 | 50,0  | 125,0 | 3,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720100D3R050.9Z9-HXT | 10067915    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 0,5 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720100D3R100.9Z9-HXT | 10067916    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720100D3R200.9Z9-HXT | 10067917    | 3            | D          | 10,0 | 10,0 | 40,0  | 89,0  | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720120D3R050.9Z9-HXT | 10067918    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 0,5 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720120D3R100.9Z9-HXT | 10067919    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720120D3R200.9Z9-HXT | 10067921    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720160D3R100.9Z9-HXT | 10008301    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720160D3R200.9Z9-HXT | 10008302    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720160D3R300.9Z9-HXT | 10008303    | 3            | D          | 16,0 | 16,0 | 65,0  | 130,0 | 3,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R100.9Z9-HXT | 10008304    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R200.9Z9-HXT | 10008305    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R300.9Z9-HXT | 10008306    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 3,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R100.9Z9-HXT | 10008307    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R200.9Z9-HXT | 10008308    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R300.9Z9-HXT | 10008309    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 3,0 | 9     | Safe-lock | <input type="checkbox"/> |

☐ Safelock available. Delivery time is 6 days.

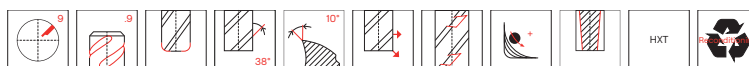


## JS720

High performance – Titanium – Square – 9 Flutes – Safelock – Corner radius



- Tolerances:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible



| Designation             | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank     | Stock standard           |
|-------------------------|-------------|--------------|------------|----------------|------|------|-------|-------|-----|-------|-----------|--------------------------|
|                         |             |              |            |                | mm   | mm   | mm    | mm    | mm  |       |           |                          |
| JS720100D3R050.9Z9C-HXT | 10067922    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 89,0  | 0,5 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720100D3R100.9Z9C-HXT | 10067923    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 89,0  | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720100D3R200.9Z9C-HXT | 10067924    | 3            | D          | ■              | 10,0 | 10,0 | 40,0  | 89,0  | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720120D3R050.9Z9C-HXT | 10067925    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 0,5 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720120D3R100.9Z9C-HXT | 10067926    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720120D3R200.9Z9C-HXT | 10067927    | 3            | D          | ■              | 12,0 | 12,0 | 45,0  | 100,0 | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720160D3R100.9Z9C-HXT | 10067928    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720160D3R200.9Z9C-HXT | 10067929    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720160D3R300.9Z9C-HXT | 10067930    | 3            | D          | ■              | 16,0 | 16,0 | 65,0  | 130,0 | 3,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R100.9Z9C-HXT | 10067931    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R200.9Z9C-HXT | 10067932    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720200D3R300.9Z9C-HXT | 10067933    | 3            | D          | ■              | 20,0 | 20,0 | 62,0  | 121,0 | 3,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R100.9Z9C-HXT | 10067934    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 1,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R200.9Z9C-HXT | 10067935    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 2,0 | 9     | Safe-lock | <input type="checkbox"/> |
| JS720250D3R300.9Z9C-HXT | 10067936    | 3            | D          | ■              | 25,0 | 25,0 | 78,0  | 146,0 | 3,0 | 9     | Safe-lock | <input type="checkbox"/> |

☐ Safelock available. Delivery time is 6 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JS720 Side milling PCEDC =6

| SMG |  | $a_e/DC$         | $a_p/DC$   | $f_z$           |                 |                 |                 |                 |                 |                 | $v_c$                             |
|-----|-----------------------------------------------------------------------------------|------------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------------------|
|     |                                                                                   |                  |            | 6               | 8               | 10              | 12              | 16              | 20              | 25              |                                   |
| M1  | E                                                                                 | 0.400<br>0,400   | 1.1<br>1,1 | 0.032<br>0,0013 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 110 (85 — 140)<br>360 (280 — 450) |
| M2  | E                                                                                 | 0.400<br>0,400   | 1.1<br>1,1 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 90 (70 — 110)<br>295 (230 — 360)  |
| M3  | E                                                                                 | 0.400<br>0,400   | 1.1<br>1,1 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 70 (55 — 99)<br>230 (190 — 320)   |
| M4  | E                                                                                 | 0.400<br>0,400   | 1.1<br>1,1 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 80 (60 — 99)<br>260 (200 — 320)   |
| M5  | E                                                                                 | 0.400<br>0,400   | 1.1<br>1,1 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 65 (50 — 83)<br>215 (170 — 270)   |
| S1  | E                                                                                 | 0.0500<br>0,0500 | 2.6<br>2,6 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.14<br>0,0055  | 43 (29 — 71)<br>140 (96 — 230)    |
| S2  | E                                                                                 | 0.0500<br>0,0500 | 2.6<br>2,6 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.14<br>0,0055  | 34 (23 — 57)<br>110 (76 — 180)    |
| S3  | E                                                                                 | 0.0500<br>0,0500 | 2.6<br>2,6 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 30 (20 — 49)<br>100 (66 — 160)    |
| S11 | E                                                                                 | 0.400<br>0,400   | 1.1<br>1,1 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 105 (78 — 120)<br>345 (260 — 390) |
| S12 | E                                                                                 | 0.400<br>0,400   | 1.1<br>1,1 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 80 (60 — 99)<br>260 (200 — 320)   |
| S13 | E                                                                                 | 0.400<br>0,400   | 1.1<br>1,1 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 80 (60 — 99)<br>260 (200 — 320)   |

#### Cutting data – JS720 Side milling advanced roughing $a_e/DC=0,07$ PCEDC =6

| SMG |  | $a_p/DC$   | $f_z$           |                 |                 |                 |                 |                |                | $v_c$                              |
|-----|------------------------------------------------------------------------------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|------------------------------------|
|     |                                                                                    |            | 6               | 8               | 10              | 12              | 16              | 20             | 25             |                                    |
| M1  | E                                                                                  | 1.9<br>1,9 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.16<br>0,0065  | 0.18<br>0,0070 | 0.20<br>0,0080 | 140 (110 — 180)<br>460 (370 — 590) |
| M2  | E                                                                                  | 1.9<br>1,9 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.16<br>0,0065 | 0.19<br>0,0075 | 115 (91 — 150)<br>375 (300 — 490)  |
| M3  | E                                                                                  | 1.9<br>1,9 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.16<br>0,0065 | 0.19<br>0,0075 | 90 (72 — 120)<br>295 (240 — 390)   |
| M4  | E                                                                                  | 1.9<br>1,9 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.16<br>0,0065 | 0.19<br>0,0075 | 105 (78 — 120)<br>345 (260 — 390)  |
| M5  | E                                                                                  | 1.9<br>1,9 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.16<br>0,0065 | 0.19<br>0,0075 | 85 (65 — 100)<br>280 (220 — 320)   |
| S1  | E                                                                                  | 2.6<br>2,6 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.095<br>0,0038 | 0.11<br>0,0044 | 0.12<br>0,0048 | 41 (28 — 68)<br>135 (92 — 220)     |
| S2  | E                                                                                  | 2.6<br>2,6 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.095<br>0,0038 | 0.11<br>0,0044 | 0.12<br>0,0048 | 33 (22 — 54)<br>110 (73 — 170)     |
| S3  | E                                                                                  | 2.6<br>2,6 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040 | 0.11<br>0,0044 | 29 (20 — 47)<br>95 (66 — 150)      |
| S11 | E                                                                                  | 1.9<br>1,9 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.16<br>0,0065 | 0.19<br>0,0075 | 135 (110 — 160)<br>445 (370 — 520) |
| S12 | E                                                                                  | 1.9<br>1,9 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.16<br>0,0065 | 0.19<br>0,0075 | 105 (78 — 120)<br>345 (260 — 390)  |
| S13 | E                                                                                  | 1.9<br>1,9 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.16<br>0,0065 | 0.19<br>0,0075 | 105 (78 — 120)<br>345 (260 — 390)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

#### Cutting data – JS720 Side milling advanced roughing $a_e/DC=0,07$ PCEDC =9

| SMG |  | $a_p/DC$ | $f_z$  |        |        |        |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|--------|--------|--------|--------|--------|-----------------|
|     |                                                                                   |          | 10     | 12     | 16     | 20     | 25     |                 |
| M1  | E                                                                                 | 2.0      | 0.11   | 0.13   | 0.16   | 0.18   | 0.20   | 125 (98 — 160)  |
|     |                                                                                   | 2.0      | 0,0044 | 0,0050 | 0,0065 | 0,0070 | 0,0080 | 410 (330 — 520) |
| M2  | E                                                                                 | 2.0      | 0.095  | 0.12   | 0.14   | 0.16   | 0.19   | 105 (82 — 130)  |
|     |                                                                                   | 2.0      | 0,0038 | 0,0048 | 0,0055 | 0,0065 | 0,0075 | 345 (270 — 420) |
| M3  | E                                                                                 | 2.0      | 0.095  | 0.12   | 0.14   | 0.16   | 0.19   | 80 (64 — 110)   |
|     |                                                                                   | 2.0      | 0,0038 | 0,0048 | 0,0055 | 0,0065 | 0,0075 | 260 (210 — 360) |
| M4  | E                                                                                 | 2.0      | 0.095  | 0.12   | 0.14   | 0.16   | 0.19   | 95 (70 — 110)   |
|     |                                                                                   | 2.0      | 0,0038 | 0,0048 | 0,0055 | 0,0065 | 0,0075 | 310 (230 — 360) |
| M5  | E                                                                                 | 2.0      | 0.095  | 0.12   | 0.14   | 0.16   | 0.19   | 75 (59 — 96)    |
|     |                                                                                   | 2.0      | 0,0038 | 0,0048 | 0,0055 | 0,0065 | 0,0075 | 245 (200 — 310) |
| S1  | E                                                                                 | 2.8      | 0.065  | 0.075  | 0.095  | 0.11   | 0.12   | 37 (25 — 61)    |
|     |                                                                                   | 2.8      | 0,0026 | 0,0030 | 0,0038 | 0,0044 | 0,0048 | 120 (83 — 200)  |
| S2  | E                                                                                 | 2.8      | 0.065  | 0.075  | 0.095  | 0.11   | 0.12   | 30 (20 — 49)    |
|     |                                                                                   | 2.8      | 0,0026 | 0,0030 | 0,0038 | 0,0044 | 0,0048 | 100 (66 — 160)  |
| S3  | E                                                                                 | 2.8      | 0.060  | 0.070  | 0.085  | 0.10   | 0.11   | 26 (18 — 43)    |
|     |                                                                                   | 2.8      | 0,0024 | 0,0028 | 0,0034 | 0,0040 | 0,0044 | 85 (60 — 140)   |
| S11 | E                                                                                 | 2.0      | 0.095  | 0.12   | 0.14   | 0.16   | 0.19   | 120 (91 — 150)  |
|     |                                                                                   | 2.0      | 0,0038 | 0,0048 | 0,0055 | 0,0065 | 0,0075 | 395 (300 — 490) |
| S12 | E                                                                                 | 2.0      | 0.095  | 0.12   | 0.14   | 0.16   | 0.19   | 95 (70 — 110)   |
|     |                                                                                   | 2.0      | 0,0038 | 0,0048 | 0,0055 | 0,0065 | 0,0075 | 310 (230 — 360) |
| S13 | E                                                                                 | 2.0      | 0.095  | 0.12   | 0.14   | 0.16   | 0.19   | 95 (70 — 110)   |
|     |                                                                                   | 2.0      | 0,0038 | 0,0048 | 0,0055 | 0,0065 | 0,0075 | 310 (230 — 360) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
iron

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

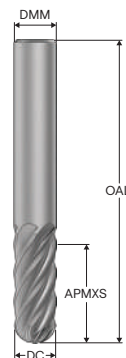
Graphite

X-Heads

Minimaster

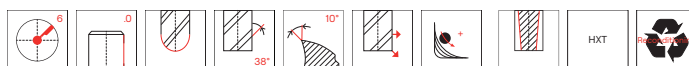
### JS730

High performance – Titanium – Ball nose – 6 Flutes – Cylindrical



D

- Tolerances:  
 —DMM= h5  
 —DC= e7  
 —RE= ±0,02 mm  
 —Two flutes to centre  
 —Regrind possible



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE   | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|-------|-------------|----------------|
| JS730060D2B.0Z6-HXT | 03067605    | 2            | D          | 6,0  | 6,0  | 17,0  | 57,0  | 3,0  | 6     | Cylindrical | ■              |
| JS730080D2B.0Z6-HXT | 03067606    | 2            | D          | 8,0  | 8,0  | 23,0  | 63,0  | 4,0  | 6     | Cylindrical | ■              |
| JS730100D2B.0Z6-HXT | 03067607    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 5,0  | 6     | Cylindrical | ■              |
| JS730120D2B.0Z6-HXT | 03067608    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 6,0  | 6     | Cylindrical | ■              |
| JS730160D2B.0Z6-HXT | 03067609    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 8,0  | 6     | Cylindrical | ■              |
| JS730200D3B.0Z6-HXT | 03067610    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 10,0 | 6     | Cylindrical | ■              |
| JS730250D3B.0Z6-HXT | 03067611    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 12,5 | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

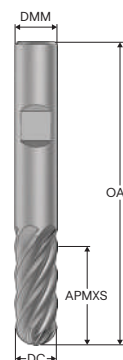
Graphite

X-Heads

Minimaster

## JS730

High performance – Titanium – Ball nose – 6 Flutes – Weldon



D

- Tolerances:
- DMM= h5
- DC= e7
- RE=  $\pm 0,02$  mm
- Two flutes to centre
- Regrind possible



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE   | PCEDC | Shank  | Stock standard                      |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|-------|--------|-------------------------------------|
|                     |             |              |            | mm   | mm   | mm    | mm    | mm   |       |        |                                     |
| JS730060D2B.3Z6-HXT | 03067778    | 2            | D          | 6,0  | 6,0  | 17,0  | 57,0  | 3,0  | 6     | Weldon | <input type="checkbox"/>            |
| JS730080D2B.3Z6-HXT | 03067779    | 2            | D          | 8,0  | 8,0  | 23,0  | 63,0  | 4,0  | 6     | Weldon | <input checked="" type="checkbox"/> |
| JS730100D2B.3Z6-HXT | 03067780    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 5,0  | 6     | Weldon | <input type="checkbox"/>            |
| JS730120D2B.3Z6-HXT | 03067781    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 6,0  | 6     | Weldon | <input type="checkbox"/>            |
| JS730160D2B.3Z6-HXT | 03067782    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 8,0  | 6     | Weldon | <input type="checkbox"/>            |
| JS730200D3B.3Z6-HXT | 03067783    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 10,0 | 6     | Weldon | <input type="checkbox"/>            |
| JS730250D3B.3Z6-HXT | 03067784    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 12,5 | 6     | Weldon | <input type="checkbox"/>            |

☐ Weldon available. Delivery time is 3 days.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

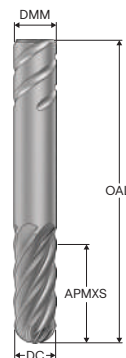
Graphite

X-Heads

Minimaster

### JS730

High performance – Titanium – Ball nose 6 Flutes – Safelock



D

—Tolerances:

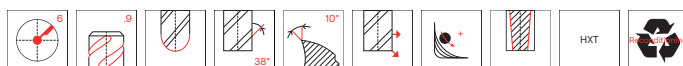
—DMM= h5

—DC= e7

—RE= ±0,02 mm

—Two flutes to centre

—Reground possible



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE   | PCEDC | Shank     | Stock standard           |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|-------|-----------|--------------------------|
| JS730060D2B.9Z6-HXT | 03067785    | 2            | D          | 6,0  | 6,0  | 17,0  | 57,0  | 3,0  | 6     | Safe-lock | <input type="checkbox"/> |
| JS730080D2B.9Z6-HXT | 03067786    | 2            | D          | 8,0  | 8,0  | 23,0  | 63,0  | 4,0  | 6     | Safe-lock | <input type="checkbox"/> |
| JS730100D2B.9Z6-HXT | 03067787    | 2            | D          | 10,0 | 10,0 | 26,0  | 72,0  | 5,0  | 6     | Safe-lock | <input type="checkbox"/> |
| JS730120D2B.9Z6-HXT | 03067788    | 2            | D          | 12,0 | 12,0 | 30,0  | 83,0  | 6,0  | 6     | Safe-lock | <input type="checkbox"/> |
| JS730160D2B.9Z6-HXT | 03067789    | 2            | D          | 16,0 | 16,0 | 44,0  | 99,0  | 8,0  | 6     | Safe-lock | <input type="checkbox"/> |
| JS730200D3B.9Z6-HXT | 03067790    | 3            | D          | 20,0 | 20,0 | 62,0  | 121,0 | 10,0 | 6     | Safe-lock | <input type="checkbox"/> |
| JS730250D3B.9Z6-HXT | 03067791    | 3            | D          | 25,0 | 25,0 | 78,0  | 146,0 | 12,5 | 6     | Safe-lock | <input type="checkbox"/> |

☐ Safelock available. Delivery time is 6 days.

## Cutting data – JS730 Side milling roughing

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$           |                 |                 |                 |                 |                 |                 | $v_c$                             |                                 |
|-----|-----------------------------------------------------------------------------------|----------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------------------|---------------------------------|
|     |                                                                                   |                |            | 6               | 8               | 10              | 12              | 16              | 20              | 25              |                                   |                                 |
| M1  | E                                                                                 | 0.100<br>0,100 | 1.8<br>1,8 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 140 (89 — 150)<br>460 (300 — 490) | Universal                       |
| M2  | E                                                                                 | 0.150<br>0,150 | 2.2<br>2,2 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 110 (70 — 120)<br>360 (230 — 390) | Steel and cast iron             |
| M3  | E                                                                                 | 0.100<br>0,100 | 1.8<br>1,8 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.14<br>0,0055  | 0.15<br>0,0060  | 85 (55 — 99)<br>280 (190 — 320)   |                                 |
| M4  | E                                                                                 | 0.100<br>0,100 | 1.8<br>1,8 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 90 (57 — 100)<br>295 (190 — 320)  |                                 |
| M5  | E                                                                                 | 0.100<br>0,100 | 1.8<br>1,8 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.13<br>0,0050  | 75 (47 — 85)<br>245 (160 — 270)   |                                 |
| S1  | E                                                                                 | 0.150<br>0,150 | 2.2<br>2,2 | 0.032<br>0,0013 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 43 (29 — 70)<br>140 (96 — 220)    | Stainless steel and S-materials |
| S2  | E                                                                                 | 0.150<br>0,150 | 2.2<br>2,2 | 0.032<br>0,0013 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.090<br>0,0036 | 0.10<br>0,0040  | 34 (23 — 57)<br>110 (76 — 180)    |                                 |
| S3  | E                                                                                 | 0.150<br>0,150 | 2.2<br>2,2 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 30 (20 — 49)<br>100 (66 — 160)    |                                 |
| S11 | E                                                                                 | 0.300<br>0,300 | 1.2<br>1,2 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 130 (79 — 130)<br>425 (260 — 420) |                                 |
| S12 | E                                                                                 | 0.300<br>0,300 | 1.2<br>1,2 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 0.095<br>0,0038 | 100 (61 — 100)<br>330 (210 — 320) |                                 |
| S13 | E                                                                                 | 0.300<br>0,300 | 1.2<br>1,2 | 0.026<br>0,0010 | 0.034<br>0,0013 | 0.044<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.085<br>0,0034 | 100 (62 — 100)<br>330 (210 — 320) | Non ferrous                     |

Cutting data – JS730 Side milling advanced roughing  $a_e/DC=0,07$ 

| SMG |  | $a_p/DC$      | $f_z$           |                 |                 |                 |                |                |                | $v_c$                             |                   |
|-----|------------------------------------------------------------------------------------|---------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
|     |                                                                                    |               | 6               | 8               | 10              | 12              | 16             | 20             | 25             |                                   |                   |
| M1  | E                                                                                  | 1.9<br>0,0022 | 0.055<br>0,0030 | 0.075<br>0,0038 | 0.095<br>0,0044 | 0.11<br>0,0055  | 0.14<br>0,0065 | 0.16<br>0,0070 | 0.18<br>0,0070 | 145 (93 — 150)<br>475 (310 — 490) | Hard              |
| M2  | E                                                                                  | 2.2<br>0,0017 | 0.042<br>0,0022 | 0.055<br>0,0028 | 0.070<br>0,0034 | 0.085<br>0,0040 | 0.10<br>0,0048 | 0.12<br>0,0050 | 0.13<br>0,0050 | 125 (78 — 130)<br>410 (260 — 420) | Plastic and cfrrp |
| M3  | E                                                                                  | 1.9<br>0,0022 | 0.055<br>0,0030 | 0.075<br>0,0038 | 0.095<br>0,0044 | 0.11<br>0,0055  | 0.14<br>0,0065 | 0.16<br>0,0070 | 0.18<br>0,0070 | 90 (58 — 100)<br>295 (200 — 320)  |                   |
| M4  | E                                                                                  | 1.9<br>0,0020 | 0.050<br>0,0026 | 0.065<br>0,0032 | 0.080<br>0,0038 | 0.095<br>0,0048 | 0.12<br>0,0055 | 0.14<br>0,0065 | 0.16<br>0,0065 | 95 (59 — 100)<br>310 (200 — 320)  |                   |
| M5  | E                                                                                  | 1.9<br>0,0020 | 0.050<br>0,0026 | 0.065<br>0,0032 | 0.080<br>0,0038 | 0.095<br>0,0048 | 0.12<br>0,0055 | 0.14<br>0,0065 | 0.16<br>0,0065 | 80 (50 — 89)<br>260 (170 — 290)   |                   |
| S1  | E                                                                                  | 2.2<br>0,0018 | 0.046<br>0,0024 | 0.060<br>0,0030 | 0.075<br>0,0036 | 0.090<br>0,0044 | 0.11<br>0,0050 | 0.13<br>0,0060 | 0.15<br>0,0060 | 47 (32 — 79)<br>155 (110 — 250)   | Graphite          |
| S2  | E                                                                                  | 2.2<br>0,0018 | 0.046<br>0,0024 | 0.060<br>0,0030 | 0.075<br>0,0036 | 0.090<br>0,0044 | 0.11<br>0,0050 | 0.13<br>0,0060 | 0.15<br>0,0060 | 38 (26 — 63)<br>125 (86 — 200)    |                   |
| S3  | E                                                                                  | 2.2<br>0,0017 | 0.042<br>0,0022 | 0.055<br>0,0028 | 0.070<br>0,0034 | 0.085<br>0,0040 | 0.10<br>0,0048 | 0.12<br>0,0050 | 0.13<br>0,0050 | 33 (23 — 55)<br>110 (76 — 180)    |                   |
| S11 | E                                                                                  | 1.9<br>0,0020 | 0.050<br>0,0028 | 0.070<br>0,0034 | 0.085<br>0,0040 | 0.10<br>0,0050  | 0.13<br>0,0060 | 0.15<br>0,0065 | 0.17<br>0,0065 | 150 (94 — 150)<br>490 (310 — 490) |                   |
| S12 | E                                                                                  | 1.9<br>0,0020 | 0.050<br>0,0028 | 0.070<br>0,0034 | 0.085<br>0,0040 | 0.10<br>0,0050  | 0.13<br>0,0060 | 0.15<br>0,0065 | 0.17<br>0,0065 | 115 (72 — 110)<br>375 (240 — 360) |                   |
| S13 | E                                                                                  | 1.9<br>0,0018 | 0.046<br>0,0024 | 0.060<br>0,0030 | 0.075<br>0,0036 | 0.090<br>0,0044 | 0.11<br>0,0050 | 0.13<br>0,0060 | 0.15<br>0,0060 | 120 (74 — 120)<br>395 (250 — 390) | X-Heads           |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

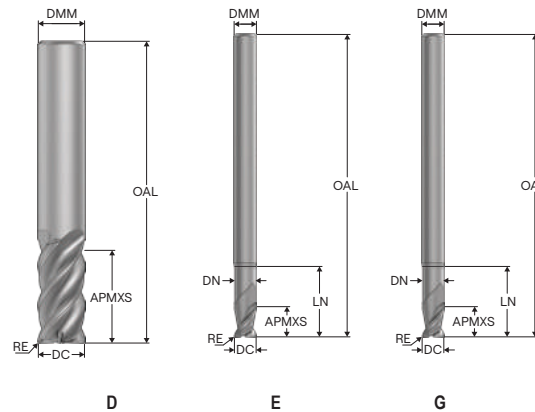
 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

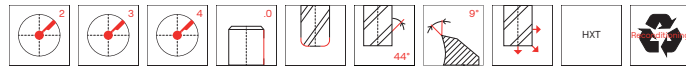
All cutting data are target values

### JHP751

High performance – Titanium – Square – 2-4 Flutes – Cylindrical – Corner radius



- Tolerances:  
 —DMM=h5  
 —DC= -0,02/-0,04 mm  
 —RE= ±0,02 mm  
 —Regrind possible if DC is ≥Ø6



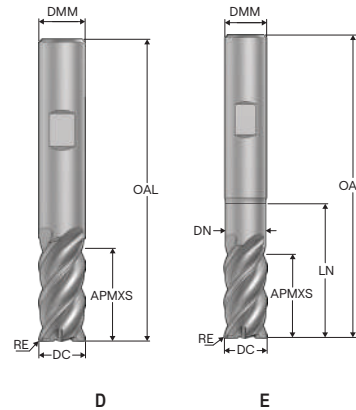
| Designation         | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|---------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
| JHP751080D1R040.0Z4 | HXT   | 10105487    | 1            | D          | 8,0  | 8,0  | 16,0  | 58,0  | —    | —    | 0,4 | 4     | Cylindrical | ■              |
| JHP751100D1R040.0Z4 | HXT   | 10105548    | 1            | D          | 10,0 | 10,0 | 20,0  | 66,0  | —    | —    | 0,4 | 4     | Cylindrical | ■              |
| JHP751100D1R150.0Z4 | HXT   | 10105549    | 1            | D          | 10,0 | 10,0 | 20,0  | 66,0  | —    | —    | 1,5 | 4     | Cylindrical | ■              |
| JHP751120D1R040.0Z4 | HXT   | 10105550    | 1            | D          | 12,0 | 12,0 | 24,0  | 75,0  | —    | —    | 0,4 | 4     | Cylindrical | ■              |
| JHP751120D1R150.0Z4 | HXT   | 10105552    | 1            | D          | 12,0 | 12,0 | 24,0  | 75,0  | —    | —    | 1,5 | 4     | Cylindrical | ■              |
| JHP751160D1R040.0Z4 | HXT   | 10105581    | 1            | D          | 16,0 | 16,0 | 32,0  | 92,0  | —    | —    | 0,4 | 4     | Cylindrical | ■              |
| JHP751160D1R150.0Z4 | HXT   | 10105582    | 1            | D          | 16,0 | 16,0 | 32,0  | 92,0  | —    | —    | 1,5 | 4     | Cylindrical | ■              |
| JHP751200D1R080.0Z4 | HXT   | 10105583    | 1            | D          | 20,0 | 20,0 | 40,0  | 104,0 | —    | —    | 0,8 | 4     | Cylindrical | ■              |
| JHP751020G2R020.0Z2 | HXT   | 10105584    | 2            | G          | 2,0  | 3,0  | 3,0   | 38,0  | 6,0  | 1,9  | 0,2 | 2     | Cylindrical | ■              |
| JHP751030G2R020.0Z2 | HXT   | 10105585    | 2            | E          | 3,0  | 3,0  | 4,5   | 38,0  | 9,0  | 2,8  | 0,2 | 2     | Cylindrical | ■              |
| JHP751040G2R020.0Z2 | HXT   | 10105586    | 2            | G          | 4,0  | 6,0  | 6,0   | 50,0  | 9,0  | 3,7  | 0,2 | 2     | Cylindrical | ■              |
| JHP751050G2R030.0Z2 | HXT   | 10105587    | 2            | G          | 5,0  | 6,0  | 7,5   | 50,0  | 9,0  | 4,6  | 0,3 | 2     | Cylindrical | ■              |
| JHP751060E2R030.0Z3 | HXT   | 10105588    | 2            | E          | 6,0  | 6,0  | 9,0   | 57,0  | 19,0 | 5,6  | 0,3 | 3     | Cylindrical | ■              |
| JHP751080E2R040.0Z4 | HXT   | 10105589    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 24,0 | 7,4  | 0,4 | 4     | Cylindrical | ■              |
| JHP751100E2R040.0Z4 | HXT   | 10105590    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 30,0 | 9,4  | 0,4 | 4     | Cylindrical | ■              |
| JHP751100E2R080.0Z4 | HXT   | 10105591    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 30,0 | 9,4  | 0,8 | 4     | Cylindrical | ■              |
| JHP751100E2R200.0Z4 | HXT   | 10105593    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 30,0 | 9,4  | 2,0 | 4     | Cylindrical | ■              |
| JHP751120E2R040.0Z4 | HXT   | 10105594    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,4 | 4     | Cylindrical | ■              |
| JHP751120E2R080.0Z4 | HXT   | 10105595    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,8 | 4     | Cylindrical | ■              |
| JHP751120E2R310.0Z4 | HXT   | 10105596    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 3,1 | 4     | Cylindrical | ■              |
| JHP751140E2R080.0Z4 | HXT   | 10105597    | 2            | E          | 14,0 | 14,0 | 28,0  | 92,0  | 45,0 | 13,4 | 0,8 | 4     | Cylindrical | ■              |
| JHP751160E2R040.0Z4 | HXT   | 10105598    | 2            | E          | 16,0 | 16,0 | 32,0  | 104,0 | 52,0 | 15,4 | 0,4 | 4     | Cylindrical | ■              |
| JHP751160E2R080.0Z4 | HXT   | 10105599    | 2            | E          | 16,0 | 16,0 | 32,0  | 104,0 | 52,0 | 15,4 | 0,8 | 4     | Cylindrical | ■              |
| JHP751160E2R200.0Z4 | HXT   | 10105600    | 2            | E          | 16,0 | 16,0 | 32,0  | 104,0 | 52,0 | 15,4 | 2,0 | 4     | Cylindrical | ■              |
| JHP751200E2R080.0Z4 | HXT   | 10105601    | 2            | E          | 20,0 | 20,0 | 40,0  | 129,0 | 75,0 | 19,4 | 0,8 | 4     | Cylindrical | ■              |

■ Stocked standard.

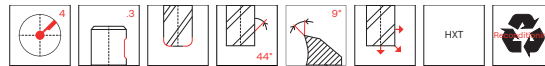


## JHP751

High performance – Titanium – Square – 2-4 Flutes – Weldon – Corner radius



- Tolerances:
- DMM=h5
- DC= -0,02/-0,04 mm
- RE= ±0,02 mm
- Regrind possible if DC is ≥Ø6



| Designation         | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank  | Stock standard |
|---------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|--------|----------------|
| JHP751080D1R040.3Z4 | HXT   | 10105739    | 1            | D          | 8,0  | 8,0  | 16,0  | 58,0  | —    | —    | 0,4 | 4     | Weldon | ■              |
| JHP751100D1R040.3Z4 | HXT   | 10105740    | 1            | D          | 10,0 | 10,0 | 20,0  | 66,0  | —    | —    | 0,4 | 4     | Weldon | ■              |
| JHP751100D1R150.3Z4 | HXT   | 10105742    | 1            | D          | 10,0 | 10,0 | 20,0  | 66,0  | —    | —    | 1,5 | 4     | Weldon | ■              |
| JHP751120D1R040.3Z4 | HXT   | 10105743    | 1            | D          | 12,0 | 12,0 | 24,0  | 75,0  | —    | —    | 0,4 | 4     | Weldon | ■              |
| JHP751120D1R150.3Z4 | HXT   | 10105744    | 1            | D          | 12,0 | 12,0 | 24,0  | 75,0  | —    | —    | 1,5 | 4     | Weldon | ■              |
| JHP751160D1R040.3Z4 | HXT   | 10105745    | 1            | D          | 16,0 | 16,0 | 32,0  | 92,0  | —    | —    | 0,4 | 4     | Weldon | ■              |
| JHP751160D1R150.3Z4 | HXT   | 10105746    | 1            | D          | 16,0 | 16,0 | 32,0  | 92,0  | —    | —    | 1,5 | 4     | Weldon | ■              |
| JHP751200D1R080.3Z4 | HXT   | 10105747    | 1            | D          | 20,0 | 20,0 | 40,0  | 104,0 | —    | —    | 0,8 | 4     | Weldon | ■              |
| JHP751080E2R040.3Z4 | HXT   | 10105748    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 24,0 | 7,4  | 0,4 | 4     | Weldon | ■              |
| JHP751100E2R040.3Z4 | HXT   | 10105749    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 30,0 | 9,4  | 0,4 | 4     | Weldon | ■              |
| JHP751100E2R080.3Z4 | HXT   | 10105750    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 30,0 | 9,4  | 0,8 | 4     | Weldon | ■              |
| JHP751100E2R200.3Z4 | HXT   | 10105751    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 30,0 | 9,4  | 2,0 | 4     | Weldon | ■              |
| JHP751120E2R040.3Z4 | HXT   | 10105752    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,4 | 4     | Weldon | ■              |
| JHP751120E2R080.3Z4 | HXT   | 10105753    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 0,8 | 4     | Weldon | ■              |
| JHP751120E2R310.3Z4 | HXT   | 10105754    | 2            | E          | 12,0 | 12,0 | 24,0  | 83,0  | 35,0 | 11,4 | 3,1 | 4     | Weldon | ■              |
| JHP751140E2R080.3Z4 | HXT   | 10105755    | 2            | E          | 14,0 | 14,0 | 28,0  | 92,0  | 45,0 | 13,4 | 0,8 | 4     | Weldon | ■              |
| JHP751160E2R040.3Z4 | HXT   | 10105756    | 2            | E          | 16,0 | 16,0 | 32,0  | 104,0 | 52,0 | 15,4 | 0,4 | 4     | Weldon | ■              |
| JHP751160E2R080.3Z4 | HXT   | 10105757    | 2            | E          | 16,0 | 16,0 | 32,0  | 104,0 | 52,0 | 15,4 | 0,8 | 4     | Weldon | ■              |
| JHP751160E2R200.3Z4 | HXT   | 10105758    | 2            | E          | 16,0 | 16,0 | 32,0  | 104,0 | 52,0 | 15,4 | 2,0 | 4     | Weldon | ■              |
| JHP751200E2R080.3Z4 | HXT   | 10105759    | 2            | E          | 20,0 | 20,0 | 40,0  | 129,0 | 75,0 | 19,4 | 0,8 | 4     | Weldon | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JHP751 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |        |        |        |        |        |        |        |        |                 | v <sub>c</sub> |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|----------------|
|     |                                                                                   |                    |                    | 2              | 3       | 4       | 5      | 6      | 8      | 10     | 12     | 14     | 16     | 20     |                 |                |
| S1  | E/M/A                                                                             | 0.0600             | 1.2                | 0.016          | 0.024   | 0.032   | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.12   | 0.14   | 48 (33 — 64)    |                |
|     |                                                                                   | 0,0600             | 1,2                | 0,00065        | 0,00095 | 0,0013  | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0048 | 0,0055 | 155 (110 — 200) |                |
| S2  | E/M/A                                                                             | 0.0600             | 1.2                | 0.016          | 0.024   | 0.032   | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.12   | 0.14   | 39 (26 — 51)    |                |
|     |                                                                                   | 0,0600             | 1,2                | 0,00065        | 0,00095 | 0,0013  | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0048 | 0,0055 | 130 (86 — 160)  |                |
| S3  | E/M/A                                                                             | 0.0400             | 1.2                | 0.012          | 0.018   | 0.024   | 0.030  | 0.036  | 0.048  | 0.060  | 0.070  | 0.080  | 0.090  | 0.10   | 33 (26 — 50)    |                |
|     |                                                                                   | 0,0400             | 1,2                | 0,00048        | 0,00070 | 0,00095 | 0,0012 | 0,0014 | 0,0019 | 0,0024 | 0,0028 | 0,0032 | 0,0036 | 0,0040 | 110 (86 — 160)  |                |
| S11 | E/M/A                                                                             | 0.0800             | 1.2                | 0.016          | 0.024   | 0.032   | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.12   | 0.14   | 145 (130 — 180) |                |
|     |                                                                                   | 0,0800             | 1,2                | 0,00065        | 0,00095 | 0,0013  | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0048 | 0,0055 | 475 (430 — 590) |                |
| S12 | E/M/A                                                                             | 0.0800             | 1.2                | 0.016          | 0.024   | 0.032   | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 0.11   | 0.12   | 0.14   | 110 (95 — 140)  |                |
|     |                                                                                   | 0,0800             | 1,2                | 0,00065        | 0,00095 | 0,0013  | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 0,0044 | 0,0048 | 0,0055 | 360 (320 — 450) |                |
| S13 | E/M/A                                                                             | 0.0800             | 1.2                | 0.014          | 0.020   | 0.028   | 0.034  | 0.042  | 0.055  | 0.070  | 0.085  | 0.095  | 0.10   | 0.12   | 90 (76 — 110)   |                |
|     |                                                                                   | 0,0800             | 1,2                | 0,00055        | 0,00080 | 0,0011  | 0,0013 | 0,0017 | 0,0022 | 0,0028 | 0,0034 | 0,0038 | 0,0040 | 0,0048 | 295 (250 — 360) |                |

#### Cutting data – JHP751 Slot milling

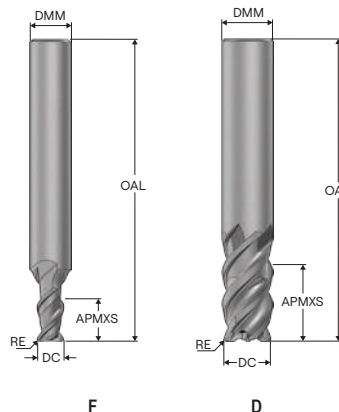
| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         |         |         |        |        |        |        |                 | v <sub>c</sub> |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|-----------------|----------------|
|     |                                                                                   |                    | 2              | 3       | 4       | 5       | 6       | 8       | 10      | 12     | 14     | 16     | 20     |                 |                |
| S1  | E/M/A                                                                             | 0.44               | 0.0075         | 0.011   | 0.015   | 0.019   | 0.022   | 0.030   | 0.038   | 0.044  | 0.050  | 0.055  | 0.065  | 30 (20 — 39)    |                |
|     |                                                                                   | 0,44               | 0,00030        | 0,00044 | 0,00060 | 0,00075 | 0,00085 | 0,0012  | 0,0015  | 0,0017 | 0,0020 | 0,0022 | 0,0026 | 100 (66 — 120)  |                |
| S2  | E/M/A                                                                             | 0.44               | 0.0075         | 0.011   | 0.015   | 0.019   | 0.022   | 0.030   | 0.038   | 0.044  | 0.050  | 0.055  | 0.065  | 24 (17 — 32)    |                |
|     |                                                                                   | 0,44               | 0,00030        | 0,00044 | 0,00060 | 0,00075 | 0,00085 | 0,0012  | 0,0015  | 0,0017 | 0,0020 | 0,0022 | 0,0026 | 80 (56 — 100)   |                |
| S3  | E/M/A                                                                             | 0.34               | 0.0046         | 0.0070  | 0.0095  | 0.012   | 0.014   | 0.019   | 0.024   | 0.028  | 0.032  | 0.034  | 0.040  | 20 (15 — 29)    |                |
|     |                                                                                   | 0,34               | 0,00018        | 0,00028 | 0,00038 | 0,00048 | 0,00055 | 0,00075 | 0,00095 | 0,0011 | 0,0013 | 0,0013 | 0,0016 | 65 (50 — 95)    |                |
| S11 | E/M/A                                                                             | 0.70               | 0.0085         | 0.013   | 0.017   | 0.022   | 0.026   | 0.034   | 0.044   | 0.050  | 0.055  | 0.065  | 0.075  | 90 (78 — 110)   |                |
|     |                                                                                   | 0,70               | 0,00034        | 0,00050 | 0,00065 | 0,00085 | 0,0010  | 0,0013  | 0,0017  | 0,0020 | 0,0022 | 0,0026 | 0,0030 | 295 (260 — 360) |                |
| S12 | E/M/A                                                                             | 0.70               | 0.0085         | 0.013   | 0.017   | 0.022   | 0.026   | 0.034   | 0.044   | 0.050  | 0.055  | 0.065  | 0.075  | 70 (60 — 89)    |                |
|     |                                                                                   | 0,70               | 0,00034        | 0,00050 | 0,00065 | 0,00085 | 0,0010  | 0,0013  | 0,0017  | 0,0020 | 0,0022 | 0,0026 | 0,0030 | 230 (200 — 290) |                |
| S13 | E/M/A                                                                             | 0.70               | 0.0075         | 0.011   | 0.015   | 0.019   | 0.022   | 0.030   | 0.038   | 0.044  | 0.050  | 0.055  | 0.065  | 55 (48 — 71)    |                |
|     |                                                                                   | 0,70               | 0,00030        | 0,00044 | 0,00060 | 0,00075 | 0,00085 | 0,0012  | 0,0015  | 0,0017 | 0,0020 | 0,0022 | 0,0026 | 180 (160 — 230) |                |

For cutting data recalculations, see pages 699 – 707

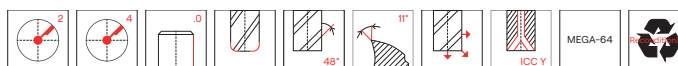
SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
v<sub>c</sub> = m/min (sf/min)  
f<sub>z</sub> = mm (in/tooth)  
a<sub>p</sub> = mm/DC (in/DC) = factor  
a<sub>e</sub> = mm/DC (in/DC) = factor  
All cutting data are target values

## JHP760

High performance – ISO-M – Square – 2-4 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM=h5
- DC= -0,02/-0,04 mm
- RE= ±0,03 mm
- Regrind possible if DC is ≥ Ø6



| Designation              | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | RE  | CA° | PCEDC | Shank       | Stock standard |
|--------------------------|-------------|--------------|------------|-----|------|------|-------|-------|-----|-----|-------|-------------|----------------|
|                          |             |              |            |     | mm   | mm   | mm    | mm    | mm  |     |       |             |                |
| 760040R020Z2.0A-MEGA-64  | 02734051    | 2            | F          | ■   | 4,0  | 6,0  | 8,0   | 50,0  | 0,2 | 4,0 | 2     | Cylindrical | ■              |
| 760040R040Z2.0A-MEGA-64  | 02623413    | 2            | F          | ■   | 4,0  | 6,0  | 8,0   | 50,0  | 0,4 | 4,0 | 2     | Cylindrical | ■              |
| 760050R020Z2.0A-MEGA-64  | 02734052    | 2            | F          | ■   | 5,0  | 6,0  | 10,0  | 50,0  | 0,2 | 2,0 | 2     | Cylindrical | ■              |
| 760050R040Z2.0A-MEGA-64  | 02623435    | 2            | F          | ■   | 5,0  | 6,0  | 10,0  | 50,0  | 0,4 | 2,0 | 2     | Cylindrical | ■              |
| 760060R020Z4.0A-MEGA-64  | 02734053    | 2            | D          | ■   | 6,0  | 6,0  | 12,0  | 50,0  | 0,2 | —   | 4     | Cylindrical | ■              |
| 760060R040Z4.0A-MEGA-64  | 02623433    | 2            | D          | ■   | 6,0  | 6,0  | 12,0  | 50,0  | 0,4 | —   | 4     | Cylindrical | ■              |
| 760080R040Z4.0A-MEGA-64  | 02623436    | 2            | D          | ■   | 8,0  | 8,0  | 16,0  | 55,0  | 0,4 | —   | 4     | Cylindrical | ■              |
| 760080R100Z4.0A-MEGA-64  | 02623437    | 2            | D          | ■   | 8,0  | 8,0  | 16,0  | 55,0  | 1,0 | —   | 4     | Cylindrical | ■              |
| 760100R040Z4.0A-MEGA-64  | 02623460    | 2            | D          | ■   | 10,0 | 10,0 | 20,0  | 65,0  | 0,4 | —   | 4     | Cylindrical | ■              |
| 760100R100Z4.0A-MEGA-64  | 02623463    | 2            | D          | ■   | 10,0 | 10,0 | 20,0  | 65,0  | 1,0 | —   | 4     | Cylindrical | ■              |
| 760100R150Z4.0A-MEGA-64  | 02623466    | 2            | D          | ■   | 10,0 | 10,0 | 20,0  | 65,0  | 1,5 | —   | 4     | Cylindrical | ■              |
| 760120R040Z4.0A-MEGA-64  | 02623819    | 2            | D          | ■   | 12,0 | 12,0 | 24,0  | 75,0  | 0,4 | —   | 4     | Cylindrical | ■              |
| 760120R100Z4.0A-MEGA-64  | 02623825    | 2            | D          | ■   | 12,0 | 12,0 | 24,0  | 75,0  | 1,0 | —   | 4     | Cylindrical | ■              |
| 760120R150Z4.0A-MEGA-64  | 02623828    | 2            | D          | ■   | 12,0 | 12,0 | 24,0  | 75,0  | 1,5 | —   | 4     | Cylindrical | ■              |
| 760120R310Z4.0A-MEGA-64  | 02623833    | 2            | D          | ■   | 12,0 | 12,0 | 24,0  | 75,0  | 3,1 | —   | 4     | Cylindrical | ■              |
| 760200R040Z4.0A-MEGA-64  | 02734055    | 2            | D          | ■   | 20,0 | 20,0 | 45,0  | 100,0 | 0,4 | —   | 4     | Cylindrical | ■              |
| 760200R080Z4.0A-MEGA-64  | 02623852    | 2            | D          | ■   | 20,0 | 20,0 | 45,0  | 100,0 | 0,8 | —   | 4     | Cylindrical | ■              |
| 760L080R040Z4.0A-MEGA-64 | 02623438    | 3            | D          | ■   | 8,0  | 8,0  | 28,0  | 65,0  | 0,4 | —   | 4     | Cylindrical | ■              |
| 760L100R040Z4.0A-MEGA-64 | 02623461    | 3            | D          | ■   | 10,0 | 10,0 | 36,0  | 75,0  | 0,4 | —   | 4     | Cylindrical | ■              |
| 760L100R100Z4.0A-MEGA-64 | 02623464    | 3            | D          | ■   | 10,0 | 10,0 | 36,0  | 75,0  | 1,0 | —   | 4     | Cylindrical | ■              |
| 760L100R150Z4.0A-MEGA-64 | 02623467    | 3            | D          | ■   | 10,0 | 10,0 | 36,0  | 75,0  | 1,5 | —   | 4     | Cylindrical | ■              |
| 760L100R200Z4.0A-MEGA-64 | 02623472    | 3            | D          | ■   | 10,0 | 10,0 | 36,0  | 75,0  | 2,0 | —   | 4     | Cylindrical | ■              |
| 760L100R310Z4.0A-MEGA-64 | 02623807    | 3            | D          | ■   | 10,0 | 10,0 | 36,0  | 75,0  | 3,1 | —   | 4     | Cylindrical | ■              |
| 760L120R040Z4.0A-MEGA-64 | 02623821    | 3            | D          | ■   | 12,0 | 12,0 | 42,0  | 90,0  | 0,4 | —   | 4     | Cylindrical | ■              |
| 760L120R100Z4.0A-MEGA-64 | 02623826    | 3            | D          | ■   | 12,0 | 12,0 | 42,0  | 90,0  | 1,0 | —   | 4     | Cylindrical | ■              |
| 760L120R150Z4.0A-MEGA-64 | 02623829    | 3            | D          | ■   | 12,0 | 12,0 | 42,0  | 90,0  | 1,5 | —   | 4     | Cylindrical | ■              |
| 760L120R400Z4.0A-MEGA-64 | 02623838    | 3            | D          | ■   | 12,0 | 12,0 | 42,0  | 90,0  | 4,0 | —   | 4     | Cylindrical | ■              |
| 760L160R040Z4.0A-MEGA-64 | 02623840    | 3            | D          | ■   | 16,0 | 16,0 | 50,0  | 100,0 | 0,4 | —   | 4     | Cylindrical | ■              |
| 760L160R100Z4.0A-MEGA-64 | 02623842    | 3            | D          | ■   | 16,0 | 16,0 | 50,0  | 100,0 | 1,0 | —   | 4     | Cylindrical | ■              |
| 760L160R150Z4.0A-MEGA-64 | 02623844    | 3            | D          | ■   | 16,0 | 16,0 | 50,0  | 100,0 | 1,5 | —   | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and CFRP

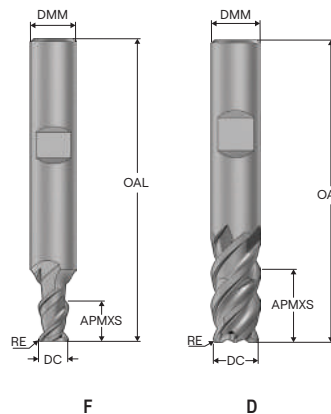
Graphite

X-Heads

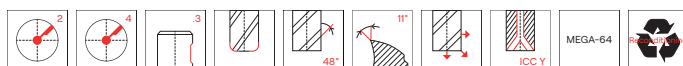
Minimaster

### JHP760

High performance – ISO-M – Square – 2-4 Flutes – Weldon – Corner radius



—Tolerances:  
—DMM=h5  
—DC=0,02/-0,04 mm  
—RE= ±0,03 mm  
—Regrind possible if DC is ≥Ø6

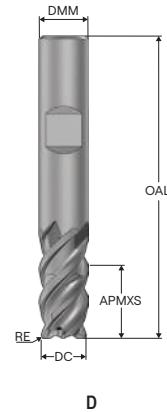


| Designation              | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | RE  | CA° | PCEDC | Shank  | Stock standard |
|--------------------------|-------------|--------------|------------|-----|------|------|-------|-------|-----|-----|-------|--------|----------------|
| 760040R020Z2.0A-MEGA-64W | 02734065    | 2            | F          | ■   | 4,0  | 6,0  | 8,0   | 50,0  | 0,2 | 4,0 | 2     | Weldon | □              |
| 760040R040Z2.0A-MEGA-64W | 02669339    | 2            | F          | ■   | 4,0  | 6,0  | 8,0   | 50,0  | 0,4 | 4,0 | 2     | Weldon | □              |
| 760050R020Z2.0A-MEGA-64W | 02734068    | 2            | F          | ■   | 5,0  | 6,0  | 10,0  | 50,0  | 0,2 | 2,0 | 2     | Weldon | □              |
| 760050R040Z2.0A-MEGA-64W | 02669340    | 2            | F          | ■   | 5,0  | 6,0  | 10,0  | 50,0  | 0,4 | 2,0 | 2     | Weldon | □              |
| 760060R020Z4.0A-MEGA-64W | 02734069    | 2            | D          | ■   | 6,0  | 6,0  | 12,0  | 50,0  | 0,2 | —   | 4     | Weldon | □              |
| 760060R040Z4.0A-MEGA-64W | 02669341    | 2            | D          | ■   | 6,0  | 6,0  | 12,0  | 50,0  | 0,4 | —   | 4     | Weldon | □              |
| 760080R040Z4.0A-MEGA-64W | 02669343    | 2            | D          | ■   | 8,0  | 8,0  | 16,0  | 55,0  | 0,4 | —   | 4     | Weldon | ■              |
| 760080R100Z4.0A-MEGA-64W | 02669344    | 2            | D          | ■   | 8,0  | 8,0  | 16,0  | 55,0  | 1,0 | —   | 4     | Weldon | □              |
| 760100R040Z4A-MEGA-64    | 02623442    | 2            | D          | ■   | 10,0 | 10,0 | 20,0  | 65,0  | 0,4 | —   | 4     | Weldon | ■              |
| 760100R100Z4A-MEGA-64    | 02623462    | 2            | D          | ■   | 10,0 | 10,0 | 20,0  | 65,0  | 1,0 | —   | 4     | Weldon | ■              |
| 760100R150Z4A-MEGA-64    | 02623465    | 2            | D          | ■   | 10,0 | 10,0 | 20,0  | 65,0  | 1,5 | —   | 4     | Weldon | ■              |
| 760120R040Z4A-MEGA-64    | 02623817    | 2            | D          | ■   | 12,0 | 12,0 | 24,0  | 75,0  | 0,4 | —   | 4     | Weldon | ■              |
| 760120R100Z4A-MEGA-64    | 02623824    | 2            | D          | ■   | 12,0 | 12,0 | 24,0  | 75,0  | 1,0 | —   | 4     | Weldon | ■              |
| 760120R150Z4A-MEGA-64    | 02623827    | 2            | D          | ■   | 12,0 | 12,0 | 24,0  | 75,0  | 1,5 | —   | 4     | Weldon | ■              |
| 760120R400Z4A-MEGA-64    | 02623835    | 2            | D          | ■   | 12,0 | 12,0 | 24,0  | 75,0  | 4,0 | —   | 4     | Weldon | ■              |
| 760160R040Z4A-MEGA-64    | 02623839    | 2            | D          | ■   | 16,0 | 16,0 | 40,0  | 90,0  | 0,4 | —   | 4     | Weldon | ■              |
| 760160R100Z4A-MEGA-64    | 02623841    | 2            | D          | ■   | 16,0 | 16,0 | 40,0  | 90,0  | 1,0 | —   | 4     | Weldon | ■              |
| 760160R150Z4A-MEGA-64    | 02623843    | 2            | D          | ■   | 16,0 | 16,0 | 40,0  | 90,0  | 1,5 | —   | 4     | Weldon | ■              |
| 760160R200Z4A-MEGA-64    | 02623845    | 2            | D          | ■   | 16,0 | 16,0 | 40,0  | 90,0  | 2,0 | —   | 4     | Weldon | ■              |
| 760200R040Z4A-MEGA-64    | 02734054    | 2            | D          | ■   | 20,0 | 20,0 | 45,0  | 100,0 | 0,4 | —   | 4     | Weldon | ■              |
| 760200R080Z4A-MEGA-64    | 02623851    | 2            | D          | ■   | 20,0 | 20,0 | 45,0  | 100,0 | 0,8 | —   | 4     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

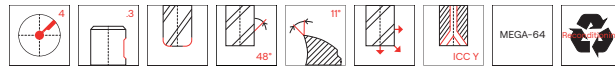
## JHP760

High performance – ISO-M – Square – 2-4 Flutes – Weldon – Corner radius



D

- Tolerances:
- DMM=h5
- DC= -0,02/-0,04 mm
- RE= ±0,03 mm
- Regrind possible



| Designation               | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank  | Stock standard           |
|---------------------------|-------------|--------------|------------|-----|------|------|-------|-------|-----|-------|--------|--------------------------|
| 760L080R040Z4.0A-MEGA-64W | 02720459    | 3            | D          | ■   | 8,0  | 8,0  | 28,0  | 65,0  | 0,4 | 4     | Weldon | <input type="checkbox"/> |
| 760L100R040Z4.0A-MEGA-64W | 02669345    | 3            | D          | ■   | 10,0 | 10,0 | 36,0  | 75,0  | 0,4 | 4     | Weldon | <input type="checkbox"/> |
| 760L100R100Z4.0A-MEGA-64W | 02669346    | 3            | D          | ■   | 10,0 | 10,0 | 36,0  | 75,0  | 1,0 | 4     | Weldon | <input type="checkbox"/> |
| 760L100R150Z4.0A-MEGA-64W | 02669347    | 3            | D          | ■   | 10,0 | 10,0 | 36,0  | 75,0  | 1,5 | 4     | Weldon | <input type="checkbox"/> |
| 760L100R200Z4.0A-MEGA-64W | 02669348    | 3            | D          | ■   | 10,0 | 10,0 | 36,0  | 75,0  | 2,0 | 4     | Weldon | <input type="checkbox"/> |
| 760L120R040Z4.0A-MEGA-64W | 02669350    | 3            | D          | ■   | 12,0 | 12,0 | 42,0  | 90,0  | 0,4 | 4     | Weldon | <input type="checkbox"/> |
| 760L120R100Z4.0A-MEGA-64W | 02669351    | 3            | D          | ■   | 12,0 | 12,0 | 42,0  | 90,0  | 1,0 | 4     | Weldon | <input type="checkbox"/> |
| 760L120R150Z4.0A-MEGA-64W | 02669352    | 3            | D          | ■   | 12,0 | 12,0 | 42,0  | 90,0  | 1,5 | 4     | Weldon | <input type="checkbox"/> |
| 760L160R040Z4.0A-MEGA-64W | 02669356    | 3            | D          | ■   | 16,0 | 16,0 | 50,0  | 100,0 | 0,4 | 4     | Weldon | <input type="checkbox"/> |
| 760L160R100Z4.0A-MEGA-64W | 02669357    | 3            | D          | ■   | 16,0 | 16,0 | 50,0  | 100,0 | 1,0 | 4     | Weldon | <input type="checkbox"/> |
| 760L160R150Z4.0A-MEGA-64W | 02669358    | 3            | D          | ■   | 16,0 | 16,0 | 50,0  | 100,0 | 1,5 | 4     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JHP760 Side milling

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$            |                 |                 |                 |                 |                 |                 |                 |                | $v_c$                             |
|-----|-----------------------------------------------------------------------------------|----------------|------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|-----------------------------------|
|     |                                                                                   |                |            | 4                | 5               | 6               | 8               | 10              | 12              | 16              | 20              | 25             |                                   |
| M1  | E                                                                                 | 0.300<br>0,300 | 1.5<br>1,5 | 0.036<br>0,0014  | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.15<br>0,0060  | 0.17<br>0,0065 | 120 (97 — 130)<br>395 (320 — 420) |
| M2  | E                                                                                 | 0.300<br>0,300 | 1.5<br>1,5 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 0.13<br>0,0050  | 0.15<br>0,0060 | 100 (81 — 110)<br>330 (270 — 360) |
| M3  | E                                                                                 | 0.300<br>0,300 | 1.4<br>1,4 | 0.026<br>0,0010  | 0.032<br>0,0013 | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048 | 75 (58 — 91)<br>245 (200 — 290)   |
| M4  | E                                                                                 | 0.300<br>0,300 | 1.4<br>1,4 | 0.022<br>0,00085 | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.095<br>0,0038 | 0.11<br>0,0044 | 60 (45 — 70)<br>195 (150 — 220)   |
| M5  | E                                                                                 | 0.300<br>0,300 | 1.4<br>1,4 | 0.022<br>0,00085 | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.095<br>0,0038 | 0.11<br>0,0044 | 48 (37 — 59)<br>155 (130 — 190)   |

#### Cutting data – JHP760 Slot milling

| SMG |  | $a_p/DC$     | $f_z$            |                  |                  |                  |                 |                 |                 |                 |                 | $v_c$                             |
|-----|-----------------------------------------------------------------------------------|--------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------------------|
|     |                                                                                   |              | 4                | 5                | 6                | 8                | 10              | 12              | 16              | 20              | 25              |                                   |
| M1  | E                                                                                 | 1.0<br>1,0   | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 110 (92 — 130)<br>360 (310 — 420) |
| M2  | E                                                                                 | 1.0<br>1,0   | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 90 (74 — 100)<br>295 (250 — 320)  |
| M3  | E                                                                                 | 0.80<br>0,80 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 70 (54 — 85)<br>230 (180 — 270)   |
| M4  | E                                                                                 | 0.80<br>0,80 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 50 (40 — 63)<br>165 (140 — 200)   |
| M5  | E                                                                                 | 0.80<br>0,80 | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 43 (34 — 53)<br>140 (120 — 170)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

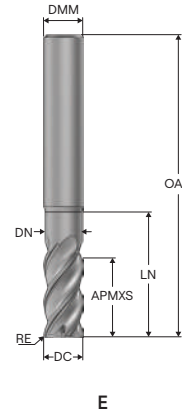
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

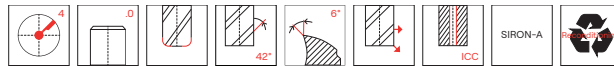
## JHP770

High performance – Titanium – Square – 4-5 Flutes – Cylindrical – Corner radius



E

- Tolerances:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible



| Designation               | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|---------------------------|-------------|--------------|------------|-----|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
| JHP770060E2R030.0Z4A-SIRA | 02760645    | 2            | E          | ■   | 6,0  | 6,0  | 12,0  | 60,0  | 18,0 | 5,6  | 0,3 | 4     | Cylindrical | ■              |
| JHP770080E2R040.0Z4A-SIRA | 02760653    | 2            | E          | ■   | 8,0  | 8,0  | 16,0  | 65,0  | 24,0 | 7,4  | 0,4 | 4     | Cylindrical | ■              |
| JHP770080E2R050.0Z4A-SIRA | 02823416    | 2            | E          | ■   | 8,0  | 8,0  | 16,0  | 65,0  | 24,0 | 7,4  | 0,5 | 4     | Cylindrical | ■              |
| JHP770100E2R040.0Z4A-SIRA | 02760654    | 2            | E          | ■   | 10,0 | 10,0 | 20,0  | 75,0  | 30,0 | 9,4  | 0,4 | 4     | Cylindrical | ■              |
| JHP770100E2R050.0Z4A-SIRA | 02823417    | 2            | E          | ■   | 10,0 | 10,0 | 20,0  | 75,0  | 30,0 | 9,4  | 0,5 | 4     | Cylindrical | ■              |
| JHP770120E2R040.0Z4A-SIRA | 02760656    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 0,4 | 4     | Cylindrical | ■              |
| JHP770120E2R050.0Z4A-SIRA | 02823419    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 0,5 | 4     | Cylindrical | ■              |
| JHP770120E2R100.0Z4A-SIRA | 02823420    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 1,0 | 4     | Cylindrical | ■              |
| JHP770120E2R250.0Z4A-SIRA | 02760659    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 2,5 | 4     | Cylindrical | ■              |
| JHP770140E2R050.0Z4A-SIRA | 02823421    | 2            | E          | ■   | 14,0 | 14,0 | 28,0  | 95,0  | 42,0 | 13,4 | 0,5 | 4     | Cylindrical | ■              |
| JHP770160E2R040.0Z4A-SIRA | 02760661    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 0,4 | 4     | Cylindrical | ■              |
| JHP770160E2R050.0Z4A-SIRA | 02823422    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 0,5 | 4     | Cylindrical | ■              |
| JHP770160E2R080.0Z4A-SIRA | 02760662    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 0,8 | 4     | Cylindrical | ■              |
| JHP770160E2R100.0Z4A-SIRA | 02823423    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 1,0 | 4     | Cylindrical | ■              |
| JHP770160E2R250.0Z4A-SIRA | 02760663    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 2,5 | 4     | Cylindrical | ■              |
| JHP770160E2R310.0Z4A-SIRA | 02760664    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 3,1 | 4     | Cylindrical | ■              |
| JHP770160E2R400.0Z4A-SIRA | 02760665    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 4,0 | 4     | Cylindrical | ■              |
| JHP770200E2R050.0Z4A-SIRA | 02823424    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 0,5 | 4     | Cylindrical | ■              |
| JHP770200E2R100.0Z4A-SIRA | 02823425    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 1,0 | 4     | Cylindrical | ■              |
| JHP770200E2R250.0Z4A-SIRA | 02760668    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 2,5 | 4     | Cylindrical | ■              |
| JHP770200E2R310.0Z4A-SIRA | 02760669    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 3,1 | 4     | Cylindrical | ■              |
| JHP770200E2R400.0Z4A-SIRA | 02760670    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 4,0 | 4     | Cylindrical | ■              |

■ Stocked standard.

Remark: if cornerradius is >15% of DC →  $a_p$ =-30%,  $f_z$ =-20%

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cf/p

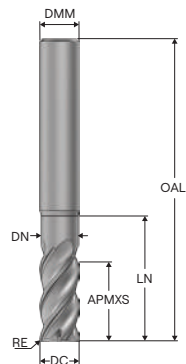
Graphite

X-Heads

Minimaster

## JHP770

High performance – Titanium – Square –4-5 Flutes – Cylindrical – Corner radius



E

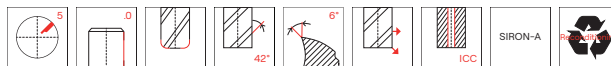
—Tolerances:

—DMM= h5

—DC= e7

—RE= ±0,02 mm

—Regrind possible



| Designation               | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|---------------------------|-------------|--------------|------------|-----|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
| JHP770160E2R050.0Z5A-SIRA | 02810129    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 0,5 | 5     | Cylindrical | ■              |
| JHP770160E2R100.0Z5A-SIRA | 02810130    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 1,0 | 5     | Cylindrical | ■              |
| JHP770160E2R250.0Z5A-SIRA | 02810131    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 2,5 | 5     | Cylindrical | ■              |
| JHP770160E2R310.0Z5A-SIRA | 02810132    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 3,1 | 5     | Cylindrical | ■              |
| JHP770160E2R400.0Z5A-SIRA | 02810133    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 4,0 | 5     | Cylindrical | ■              |
| JHP770200E2R050.0Z5A-SIRA | 02810134    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 0,5 | 5     | Cylindrical | ■              |
| JHP770200E2R100.0Z5A-SIRA | 02810135    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 1,0 | 5     | Cylindrical | ■              |
| JHP770200E2R250.0Z5A-SIRA | 02810136    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 2,5 | 5     | Cylindrical | ■              |
| JHP770200E2R310.0Z5A-SIRA | 02810137    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 3,1 | 5     | Cylindrical | ■              |
| JHP770200E2R400.0Z5A-SIRA | 02810138    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 4,0 | 5     | Cylindrical | ■              |
| JHP770250E2R050.0Z5A-SIRA | 02810139    | 2            | E          | ■   | 25,0 | 25,0 | 50,0  | 130,0 | 65,0 | 24,4 | 0,5 | 5     | Cylindrical | ■              |

■ Stocked standard.

Remark: if cornerradius is >15% of DC →  $a_p$ =-30%,  $f_z$ =-20%

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

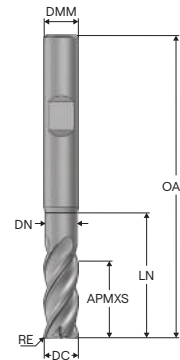
X-Heads

Minimaster



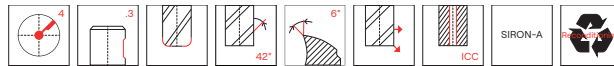
## JHP770

High performance – Titanium – Square – 4-5 Flutes – Weldon – Corner radius



E

- Tolerances:
- DMM= h5
- DC= e7
- RE=  $\pm 0,02$  mm
- Regrind possible



| Designation               | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank  | Stock standard |
|---------------------------|-------------|--------------|------------|-----|------|------|-------|-------|------|------|-----|-------|--------|----------------|
| JHP770060E2R030.3Z4A-SIRA | 02760796    | 2            | E          | ■   | 6,0  | 6,0  | 12,0  | 60,0  | 18,0 | 5,6  | 0,3 | 4     | Weldon | ■              |
| JHP770080E2R040.3Z4A-SIRA | 02760799    | 2            | E          | ■   | 8,0  | 8,0  | 16,0  | 65,0  | 24,0 | 7,4  | 0,4 | 4     | Weldon | □              |
| JHP770080E2R050.3Z4A-SIRA | 02823428    | 2            | E          | ■   | 8,0  | 8,0  | 16,0  | 65,0  | 24,0 | 7,4  | 0,5 | 4     | Weldon | ■              |
| JHP770100E2R040.3Z4A-SIRA | 02760801    | 2            | E          | ■   | 10,0 | 10,0 | 20,0  | 75,0  | 30,0 | 9,4  | 0,4 | 4     | Weldon | □              |
| JHP770100E2R050.3Z4A-SIRA | 02823429    | 2            | E          | ■   | 10,0 | 10,0 | 20,0  | 75,0  | 30,0 | 9,4  | 0,5 | 4     | Weldon | ■              |
| JHP770120E2R040.3Z4A-SIRA | 02760803    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 0,4 | 4     | Weldon | □              |
| JHP770120E2R050.3Z4A-SIRA | 02823431    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 0,5 | 4     | Weldon | ■              |
| JHP770120E2R100.3Z4A-SIRA | 02823432    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 1,0 | 4     | Weldon | ■              |
| JHP770120E2R250.3Z4A-SIRA | 02760805    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 2,5 | 4     | Weldon | □              |
| JHP770140E2R050.3Z4A-SIRA | 02823433    | 2            | E          | ■   | 14,0 | 14,0 | 28,0  | 95,0  | 42,0 | 13,4 | 0,5 | 4     | Weldon | ■              |
| JHP770160E2R040.3Z4A-SIRA | 02760807    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 0,4 | 4     | Weldon | □              |
| JHP770160E2R050.3Z4A-SIRA | 02823434    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 0,5 | 4     | Weldon | ■              |
| JHP770160E2R080.3Z4A-SIRA | 02760809    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 0,8 | 4     | Weldon | □              |
| JHP770160E2R100.3Z4A-SIRA | 02823435    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 1,0 | 4     | Weldon | ■              |
| JHP770160E2R250.3Z4A-SIRA | 02760810    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 2,5 | 4     | Weldon | ■              |
| JHP770160E2R310.3Z4A-SIRA | 02760811    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 3,1 | 4     | Weldon | □              |
| JHP770160E2R400.3Z4A-SIRA | 02760817    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 4,0 | 4     | Weldon | □              |
| JHP770200E2R050.3Z4A-SIRA | 02823436    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 0,5 | 4     | Weldon | ■              |
| JHP770200E2R100.3Z4A-SIRA | 02823437    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 1,0 | 4     | Weldon | ■              |
| JHP770200E2R250.3Z4A-SIRA | 02760823    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 2,5 | 4     | Weldon | □              |
| JHP770200E2R310.3Z4A-SIRA | 02760824    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 3,1 | 4     | Weldon | □              |
| JHP770200E2R400.3Z4A-SIRA | 02760825    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 4,0 | 4     | Weldon | □              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

Remark: if cornerradius is >15% of DC →  $a_p$ =-30%,  $f_z$ =-20%

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cf/rp

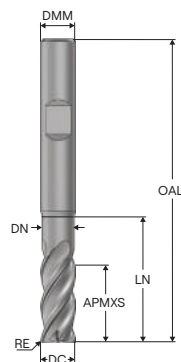
Graphite

X-Heads

Minimaster

### JHP770

High performance – Titanium – Square – 4-5 Flutes – Weldon – Corner radius



E

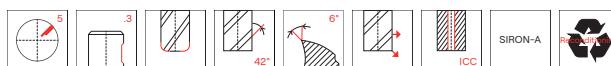
—Tolerances:

—DMM= h5

—DC= e7

—RE= ±0,02 mm

—Regrind possible



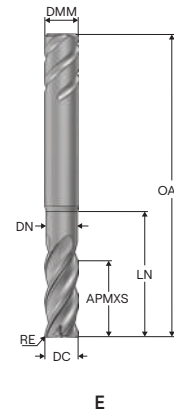
| Designation               | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank  | Stock standard |
|---------------------------|-------------|--------------|------------|-----|------|------|-------|-------|------|------|-----|-------|--------|----------------|
| JHP770160E2R050.3Z5A-SIRA | 02810143    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 0,5 | 5     | Weldon | ■              |
| JHP770160E2R100.3Z5A-SIRA | 02810144    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 1,0 | 5     | Weldon | ■              |
| JHP770160E2R250.3Z5A-SIRA | 02810145    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 2,5 | 5     | Weldon | □              |
| JHP770160E2R310.3Z5A-SIRA | 02810146    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 3,1 | 5     | Weldon | ■              |
| JHP770160E2R400.3Z5A-SIRA | 02810147    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 4,0 | 5     | Weldon | □              |
| JHP770200E2R050.3Z5A-SIRA | 02810148    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 0,5 | 5     | Weldon | ■              |
| JHP770200E2R100.3Z5A-SIRA | 02810149    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 1,0 | 5     | Weldon | ■              |
| JHP770200E2R250.3Z5A-SIRA | 02810150    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 2,5 | 5     | Weldon | □              |
| JHP770200E2R310.3Z5A-SIRA | 02810151    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 3,1 | 5     | Weldon | ■              |
| JHP770200E2R400.3Z5A-SIRA | 02810152    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 4,0 | 5     | Weldon | ■              |
| JHP770250E2R050.3Z5A-SIRA | 02810153    | 2            | E          | ■   | 25,0 | 25,0 | 50,0  | 130,0 | 65,0 | 24,4 | 0,5 | 5     | Weldon | ■              |
| JHP770250E2R100.3Z5A-SIRA | 02810154    | 2            | E          | ■   | 25,0 | 25,0 | 50,0  | 130,0 | 65,0 | 24,4 | 1,0 | 5     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

Remark: if cornerradius is >15% of DC → a<sub>p</sub>=-30%, f<sub>z</sub>=-20%

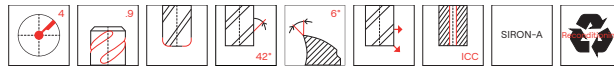
## JHP770

High performance – Titanium – Square – 4-5 Flutes – Safelock – Corner radius



E

- Tolerances:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible



| Designation               | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank     | Stock standard           |
|---------------------------|-------------|--------------|------------|-----|------|------|-------|-------|------|------|-----|-------|-----------|--------------------------|
| JHP770060E2R030.9Z4A-SIRA | 02927936    | 2            | E          | ■   | 6,0  | 6,0  | 12,0  | 60,0  | 18,0 | 6,0  | 0,3 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770080E2R040.9Z4A-SIRA | 02927937    | 2            | E          | ■   | 8,0  | 8,0  | 16,0  | 65,0  | 24,0 | 7,0  | 0,4 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770080E2R050.9Z4A-SIRA | 02927938    | 2            | E          | ■   | 8,0  | 8,0  | 16,0  | 65,0  | 24,0 | 7,0  | 0,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770100E2R040.9Z4A-SIRA | 02927939    | 2            | E          | ■   | 10,0 | 10,0 | 20,0  | 75,0  | 30,0 | 9,0  | 0,4 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770100E2R050.9Z4A-SIRA | 02927940    | 2            | E          | ■   | 10,0 | 10,0 | 20,0  | 75,0  | 30,0 | 9,0  | 0,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770120E2R040.9Z4A-SIRA | 02927943    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,0 | 0,4 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770120E2R050.9Z4A-SIRA | 02927944    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,0 | 0,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770120E2R100.9Z4A-SIRA | 02927946    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,0 | 1,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770120E2R250.9Z4A-SIRA | 02927947    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,0 | 2,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770140E2R050.9Z4A-SIRA | 02927950    | 2            | E          | ■   | 14,0 | 14,0 | 28,0  | 95,0  | 42,0 | 13,0 | 0,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770160E2R040.9Z4A-SIRA | 02927948    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,0 | 0,4 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770160E2R050.9Z4A-SIRA | 02927978    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,0 | 0,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770160E2R080.9Z4A-SIRA | 02927951    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,0 | 0,8 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770160E2R100.9Z4A-SIRA | 02927952    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,0 | 1,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770160E2R250.9Z4A-SIRA | 02927954    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,0 | 2,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770160E2R310.9Z4A-SIRA | 02927956    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,0 | 3,1 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770160E2R400.9Z4A-SIRA | 02927958    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,0 | 4,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770200E2R050.9Z4A-SIRA | 02927960    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,0 | 0,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770200E2R100.9Z4A-SIRA | 02927962    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,0 | 1,0 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770200E2R250.9Z4A-SIRA | 02927964    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,0 | 2,5 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770200E2R310.9Z4A-SIRA | 02927966    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,0 | 3,1 | 4     | Safe-lock | <input type="checkbox"/> |
| JHP770200E2R400.9Z4A-SIRA | 02927968    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,0 | 4,0 | 4     | Safe-lock | <input type="checkbox"/> |

☐ Safelock available. Delivery time is 6 days.

Remark: if cornerradius is >15% of DC →  $a_p$ =-30%,  $f_z$ =-20%

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

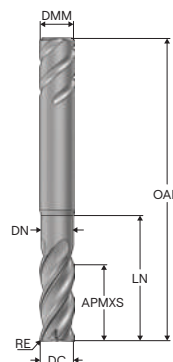
Graphite

X-Heads

Minimaster

## JHP770

High performance – Titanium – Square – 4-5 Flutes – Safelock – Corner radius



E

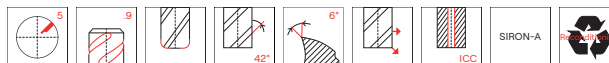
—Tolerances:

—DMM= h5

—DC= e7

—RE= ±0,02 mm

—Regrind possible



| Designation               | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank     | Stock standard           |
|---------------------------|-------------|--------------|------------|-----|------|------|-------|-------|------|------|-----|-------|-----------|--------------------------|
| JHP770160E2R050.9Z5A-SIRA | 02927949    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,0 | 0,5 | 5     | Safe-lock | <input type="checkbox"/> |
| JHP770160E2R100.9Z5A-SIRA | 02927953    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,0 | 1,0 | 5     | Safe-lock | <input type="checkbox"/> |
| JHP770160E2R250.9Z5A-SIRA | 02927955    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,0 | 2,5 | 5     | Safe-lock | <input type="checkbox"/> |
| JHP770160E2R310.9Z5A-SIRA | 02927957    | 2            | E          | ■   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,0 | 3,1 | 5     | Safe-lock | <input type="checkbox"/> |
| JHP770200E2R050.9Z5A-SIRA | 02927961    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,0 | 0,5 | 5     | Safe-lock | <input type="checkbox"/> |
| JHP770200E2R100.9Z5A-SIRA | 02927963    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,0 | 1,0 | 5     | Safe-lock | <input type="checkbox"/> |
| JHP770200E2R250.9Z5A-SIRA | 02927965    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,0 | 2,5 | 5     | Safe-lock | <input type="checkbox"/> |
| JHP770200E2R310.9Z5A-SIRA | 02927967    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,0 | 3,1 | 5     | Safe-lock | <input type="checkbox"/> |
| JHP770200E2R400.9Z5A-SIRA | 02927969    | 2            | E          | ■   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,0 | 4,0 | 5     | Safe-lock | <input type="checkbox"/> |
| JHP770250E2R050.9Z5A-SIRA | 02927971    | 2            | E          | ■   | 25,0 | 25,0 | 50,0  | 130,0 | 65,0 | 24,0 | 0,5 | 5     | Safe-lock | <input type="checkbox"/> |

☐ Safelock available. Delivery time is 6 days.

Remark: if cornerradius is >15% of DC →  $a_p$ =-30%,  $f_z$ =-20%

#### Cutting data – JHP770 Side milling

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$           |                 |                 |                 |                 |                |                |                | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|------------------------------------|
|     |                                                                                   |                |            | 6               | 8               | 10              | 12              | 14              | 16             | 20             | 25             |                                    |
| S11 | E                                                                                 | 0.400<br>0,400 | 1.8<br>1,6 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.16<br>0,0065 | 120 (110 — 130)<br>395 (370 — 420) |
| S12 | E                                                                                 | 0.400<br>0,400 | 1.8<br>1,6 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.16<br>0,0065 | 90 (80 — 100)<br>295 (270 — 320)   |
| S13 | E                                                                                 | 0.400<br>0,400 | 1.8<br>1,6 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.095<br>0,0038 | 0.11<br>0,0044 | 0.12<br>0,0048 | 0.14<br>0,0055 | 75 (64 — 81)<br>245 (210 — 260)    |

#### Cutting data – JHP770 Slot milling

| SMG |  | $a_p/DC$   | $f_z$           |                 |                 |                 |                 |                 |                |                | $v_c$                             |
|-----|-----------------------------------------------------------------------------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|-----------------------------------|
|     |                                                                                   |            | 6               | 8               | 10              | 12              | 14              | 16              | 20             | 25             |                                   |
| S11 | E                                                                                 | 1.6<br>1,6 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 105 (94 — 120)<br>345 (310 — 390) |
| S12 | E                                                                                 | 1.6<br>1,6 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 80 (72 — 92)<br>260 (240 — 300)   |
| S13 | E                                                                                 | 1.6<br>1,6 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 65 (56 — 71)<br>215 (190 — 230)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
iron

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

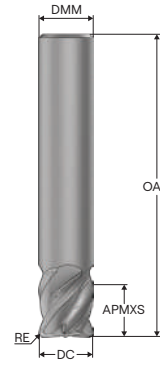
Graphite

X-Heads

Minimaster

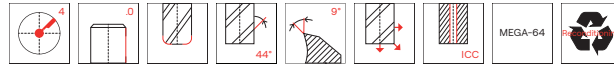
### JHP780

High performance – Superalloy – Square – 4-Flutes – Cylindrical – Corner radius



D

—Tolerances:  
—DMM=h5  
—DC=e7  
—RE= ±0,02 mm  
—Regrind possible

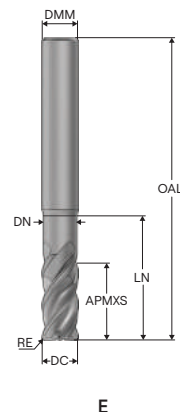


| Designation              | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL  | RE  | PCEDC | Shank       | Stock standard |
|--------------------------|-------------|--------------|------------|-----|------|------|-------|------|-----|-------|-------------|----------------|
| JHP780060D1R030.0Z4A-M64 | 03134984    | 1            | D          | ■   | 6,0  | 6,0  | 7,5   | 47,0 | 0,3 | 4     | Cylindrical | ■              |
| JHP780060D1R080.0Z4A-M64 | 03134985    | 1            | D          | ■   | 6,0  | 6,0  | 7,5   | 47,0 | 0,8 | 4     | Cylindrical | ■              |
| JHP780080D1R040.0Z4A-M64 | 03134986    | 1            | D          | ■   | 8,0  | 8,0  | 10,0  | 50,0 | 0,4 | 4     | Cylindrical | ■              |
| JHP780080D1R080.0Z4A-M64 | 03134987    | 1            | D          | ■   | 8,0  | 8,0  | 10,0  | 50,0 | 0,8 | 4     | Cylindrical | ■              |
| JHP780100D1R040.0Z4A-M64 | 03134988    | 1            | D          | ■   | 10,0 | 10,0 | 12,5  | 57,0 | 0,4 | 4     | Cylindrical | ■              |
| JHP780100D1R080.0Z4A-M64 | 03134989    | 1            | D          | ■   | 10,0 | 10,0 | 12,5  | 57,0 | 0,8 | 4     | Cylindrical | ■              |

■ Stocked standard.

## JHP780

High performance – Superalloy – Square – 4-Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Regrind possible



| Designation              | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|--------------------------|-------------|--------------|------------|-----|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
|                          |             |              |            |     | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |             |                |
| JHP780060E2R030.0Z4A-M64 | 03134992    | 2            | E          | ■   | 6,0  | 6,0  | 12,0  | 60,0  | 18,0 | 5,6  | 0,3 | 4     | Cylindrical | ■              |
| JHP780060E2R030.0Z4-M64  | 02760834    | 2            | E          | —   | 6,0  | 6,0  | 12,0  | 60,0  | 18,0 | 5,6  | 0,3 | 4     | Cylindrical | ■              |
| JHP780080E2R040.0Z4A-M64 | 03134993    | 2            | E          | ■   | 8,0  | 8,0  | 16,0  | 65,0  | 24,0 | 7,4  | 0,4 | 4     | Cylindrical | ■              |
| JHP780080E2R040.0Z4-M64  | 02760842    | 2            | E          | —   | 8,0  | 8,0  | 16,0  | 65,0  | 24,0 | 7,4  | 0,4 | 4     | Cylindrical | ■              |
| JHP780100E2R040.0Z4A-M64 | 03134994    | 2            | E          | ■   | 10,0 | 10,0 | 20,0  | 75,0  | 30,0 | 9,4  | 0,4 | 4     | Cylindrical | ■              |
| JHP780100E2R040.0Z4-M64  | 02760846    | 2            | E          | —   | 10,0 | 10,0 | 20,0  | 75,0  | 30,0 | 9,4  | 0,4 | 4     | Cylindrical | ■              |
| JHP780100E2R080.0Z4A-M64 | 03134995    | 2            | E          | ■   | 10,0 | 10,0 | 20,0  | 75,0  | 30,0 | 9,4  | 0,8 | 4     | Cylindrical | ■              |
| JHP780100E2R080.0Z4-M64  | 02760847    | 2            | E          | —   | 10,0 | 10,0 | 20,0  | 75,0  | 30,0 | 9,4  | 0,8 | 4     | Cylindrical | ■              |
| JHP780120E2R040.0Z4A-M64 | 03134996    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 0,4 | 4     | Cylindrical | ■              |
| JHP780120E2R040.0Z4-M64  | 02760848    | 2            | E          | —   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 0,4 | 4     | Cylindrical | ■              |
| JHP780120E2R080.0Z4A-M64 | 03134997    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 0,8 | 4     | Cylindrical | ■              |
| JHP780120E2R080.0Z4-M64  | 02760849    | 2            | E          | —   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 0,8 | 4     | Cylindrical | ■              |
| JHP780120E2R150.0Z4-M64  | 02760850    | 2            | E          | —   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 1,5 | 4     | Cylindrical | ■              |
| JHP780120E2R250.0Z4-M64  | 02760851    | 2            | E          | —   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 2,5 | 4     | Cylindrical | ■              |
| JHP780140E2R040.0Z4-M64  | 02760852    | 2            | E          | —   | 14,0 | 14,0 | 28,0  | 95,0  | 42,0 | 13,4 | 0,4 | 4     | Cylindrical | ■              |
| JHP780160E2R040.0Z4-M64  | 02760853    | 2            | E          | —   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 0,4 | 4     | Cylindrical | ■              |
| JHP780160E2R080.0Z4-M64  | 02760861    | 2            | E          | —   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 0,8 | 4     | Cylindrical | ■              |
| JHP780200E2R040.0Z4-M64  | 02760865    | 2            | E          | —   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 0,4 | 4     | Cylindrical | ■              |
| JHP780200E2R400.0Z4-M64  | 02760868    | 2            | E          | —   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 4,0 | 4     | Cylindrical | ■              |
| JHP780250E2R080.0Z4-M64  | 02760870    | 2            | E          | —   | 25,0 | 25,0 | 50,0  | 130,0 | 65,0 | 24,4 | 0,8 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

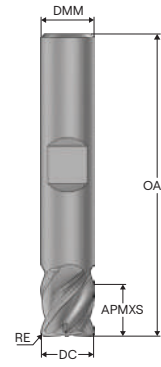
Graphite

X-Heads

Minimaster

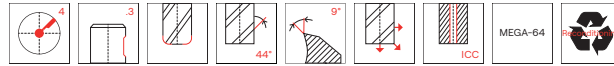
### JHP780

High performance – Superalloy – Square – 4-Flutes – Weldon – Corner radius



D

—Tolerances:  
—DMM=h5  
—DC=e7  
—RE= ±0,02 mm  
—Regrind possible



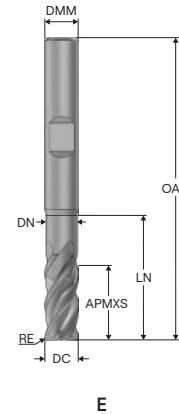
| Designation              | Item number | Length index | Tool shape | CSP | DC  | DMM | APMXS | OAL  | RE  | PCEDC | Shank  | Stock standard |
|--------------------------|-------------|--------------|------------|-----|-----|-----|-------|------|-----|-------|--------|----------------|
| JHP780060D1R030.3Z4A-M64 | 03135445    | 1            | D          | ■   | 6,0 | 6,0 | 7,5   | 47,0 | 0,3 | 4     | Weldon | ■              |
| JHP780060D1R080.3Z4A-M64 | 03135446    | 1            | D          | ■   | 6,0 | 6,0 | 7,5   | 47,0 | 0,8 | 4     | Weldon | ■              |
| JHP780080D1R040.3Z4A-M64 | 03135447    | 1            | D          | ■   | 8,0 | 8,0 | 10,0  | 50,0 | 0,4 | 4     | Weldon | ■              |
| JHP780080D1R080.3Z4A-M64 | 03135449    | 1            | D          | ■   | 8,0 | 8,0 | 10,0  | 50,0 | 0,8 | 4     | Weldon | ■              |

■ Stocked standard.



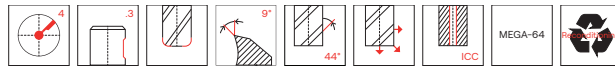
## JHP780

High performance – Superalloy – Square – 4-Flutes – Weldon – Corner radius



E

- Tolerances:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Regrind possible



| Designation              | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank  | Stock standard |
|--------------------------|-------------|--------------|------------|-----|------|------|-------|-------|------|------|-----|-------|--------|----------------|
|                          |             |              |            |     | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |        |                |
| JHP780060E2R030.3Z4-M64  | 02760878    | 2            | E          | —   | 6,0  | 6,0  | 12,0  | 60,0  | 18,0 | 5,6  | 0,3 | 4     | Weldon | ■              |
| JHP780080E2R040.3Z4-M64  | 02760879    | 2            | E          | —   | 8,0  | 8,0  | 16,0  | 65,0  | 24,0 | 7,4  | 0,4 | 4     | Weldon | ■              |
| JHP780080E2R040.3Z4A-M64 | 03135455    | 2            | E          | ■   | 8,0  | 8,0  | 16,0  | 65,0  | 24,0 | 7,4  | 0,4 | 4     | Weldon | ■              |
| JHP780100E2R040.3Z4-M64  | 02760880    | 2            | E          | —   | 10,0 | 10,0 | 20,0  | 75,0  | 30,0 | 9,4  | 0,4 | 4     | Weldon | ■              |
| JHP780100E2R080.3Z4-M64  | 02760881    | 2            | E          | —   | 10,0 | 10,0 | 20,0  | 75,0  | 30,0 | 9,4  | 0,8 | 4     | Weldon | ■              |
| JHP780120E2R040.3Z4-M64  | 02760883    | 2            | E          | —   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 0,4 | 4     | Weldon | ■              |
| JHP780120E2R040.3Z4A-M64 | 03134998    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 0,4 | 4     | Weldon | ■              |
| JHP780120E2R080.3Z4-M64  | 02760885    | 2            | E          | —   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 0,8 | 4     | Weldon | ■              |
| JHP780120E2R080.3Z4A-M64 | 03134999    | 2            | E          | ■   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 0,8 | 4     | Weldon | ■              |
| JHP780120E2R150.3Z4-M64  | 02760887    | 2            | E          | —   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 1,5 | 4     | Weldon | ■              |
| JHP780120E2R250.3Z4-M64  | 02766989    | 2            | E          | —   | 12,0 | 12,0 | 24,0  | 90,0  | 36,0 | 11,4 | 2,5 | 4     | Weldon | ■              |
| JHP780140E2R040.3Z4-M64  | 02760888    | 2            | E          | —   | 14,0 | 14,0 | 28,0  | 95,0  | 42,0 | 13,4 | 0,4 | 4     | Weldon | ■              |
| JHP780160E2R040.3Z4-M64  | 02760889    | 2            | E          | —   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 0,4 | 4     | Weldon | ■              |
| JHP780160E2R080.3Z4-M64  | 02760890    | 2            | E          | —   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 0,8 | 4     | Weldon | ■              |
| JHP780160E2R400.3Z4-M64  | 02760893    | 2            | E          | —   | 16,0 | 16,0 | 32,0  | 100,0 | 45,0 | 15,4 | 4,0 | 4     | Weldon | ■              |
| JHP780200E2R040.3Z4-M64  | 02760894    | 2            | E          | —   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 0,4 | 4     | Weldon | ■              |
| JHP780200E2R080.3Z4-M64  | 02760896    | 2            | E          | —   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 0,8 | 4     | Weldon | ■              |
| JHP780200E2R310.3Z4-M64  | 02760897    | 2            | E          | —   | 20,0 | 20,0 | 40,0  | 115,0 | 55,0 | 19,4 | 3,1 | 4     | Weldon | ■              |
| JHP780250E2R080.3Z4-M64  | 02760901    | 2            | E          | —   | 25,0 | 25,0 | 50,0  | 130,0 | 65,0 | 24,4 | 0,8 | 4     | Weldon | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

Graphite

X-Heads

Minimaster

#### Cutting data – JHP780 Side milling

| SMG |  | $a_e/DC$              | $a_p/DC$            | $f_z$                  |                        |                        |                        |                        |                        |                       |                       | $v_c$                                  |
|-----|-----------------------------------------------------------------------------------|-----------------------|---------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------------|-----------------------|----------------------------------------|
|     |                                                                                   |                       |                     | 6                      | 8                      | 10                     | 12                     | 14                     | 16                     | 20                    | 25                    |                                        |
| S1  | E                                                                                 | 0.300<br><i>0,300</i> | 1.0<br><i>1,0</i>   | 0.036<br><i>0,0014</i> | 0.048<br><i>0,0019</i> | 0.060<br><i>0,0024</i> | 0.070<br><i>0,0028</i> | 0.080<br><i>0,0032</i> | 0.090<br><i>0,0036</i> | 0.10<br><i>0,0040</i> | 0.12<br><i>0,0048</i> | 50 (45 — 59)<br><i>165 (150 — 190)</i> |
| S2  | E                                                                                 | 0.300<br><i>0,300</i> | 1.0<br><i>1,0</i>   | 0.036<br><i>0,0014</i> | 0.048<br><i>0,0019</i> | 0.060<br><i>0,0024</i> | 0.070<br><i>0,0028</i> | 0.080<br><i>0,0032</i> | 0.090<br><i>0,0036</i> | 0.10<br><i>0,0040</i> | 0.12<br><i>0,0048</i> | 42 (36 — 47)<br><i>140 (120 — 150)</i> |
| S3  | E                                                                                 | 0.300<br><i>0,300</i> | 0.80<br><i>0,80</i> | 0.036<br><i>0,0014</i> | 0.048<br><i>0,0019</i> | 0.060<br><i>0,0024</i> | 0.070<br><i>0,0028</i> | 0.080<br><i>0,0032</i> | 0.090<br><i>0,0036</i> | 0.10<br><i>0,0040</i> | 0.11<br><i>0,0044</i> | 28 (23 — 33)<br><i>90 (76 — 100)</i>   |

#### Cutting data – JHP780 Slot milling

| SMG |  | $a_p/DC$            | $f_z$                   |                         |                         |                        |                        |                        |                        |                        | $v_c$                                  |
|-----|-----------------------------------------------------------------------------------|---------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|----------------------------------------|
|     |                                                                                   |                     | 6                       | 8                       | 10                      | 12                     | 14                     | 16                     | 20                     | 25                     |                                        |
| S1  | E                                                                                 | 0.80<br><i>0,80</i> | 0.020<br><i>0,00080</i> | 0.028<br><i>0,0011</i>  | 0.034<br><i>0,0013</i>  | 0.042<br><i>0,0017</i> | 0.048<br><i>0,0019</i> | 0.055<br><i>0,0022</i> | 0.070<br><i>0,0028</i> | 0.085<br><i>0,0034</i> | 43 (38 — 49)<br><i>140 (130 — 160)</i> |
| S2  | E                                                                                 | 0.80<br><i>0,80</i> | 0.020<br><i>0,00080</i> | 0.028<br><i>0,0011</i>  | 0.034<br><i>0,0013</i>  | 0.042<br><i>0,0017</i> | 0.048<br><i>0,0019</i> | 0.055<br><i>0,0022</i> | 0.070<br><i>0,0028</i> | 0.085<br><i>0,0034</i> | 35 (30 — 40)<br><i>115 (99 — 130)</i>  |
| S3  | E                                                                                 | 0.60<br><i>0,60</i> | 0.012<br><i>0,00048</i> | 0.016<br><i>0,00065</i> | 0.020<br><i>0,00080</i> | 0.025<br><i>0,0010</i> | 0.028<br><i>0,0011</i> | 0.032<br><i>0,0013</i> | 0.040<br><i>0,0016</i> | 0.050<br><i>0,0020</i> | 26 (21 — 30)<br><i>85 (69 — 98)</i>    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

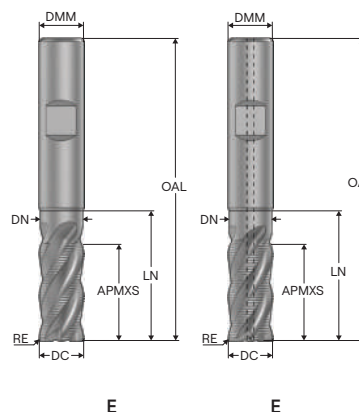
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## JHP794

High performance – ISO-M – Square – 4 Flutes – Weldon – Corner radius



- Tolerances:
- DMM= h6
- DC= h12
- RE=  $\pm 0,05$  mm
- Regrind possible if DC is  $\geq \varnothing 8$



| Designation          | Grade | Item number | Length index | Tool shape | Chip splitters | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE   | PCEDC | Shank  | Stock standard |
|----------------------|-------|-------------|--------------|------------|----------------|-----|------|------|-------|-------|------|------|------|-------|--------|----------------|
|                      |       |             |              |            |                |     | mm   | mm   | mm    | mm    | mm   | mm   | mm   |       |        |                |
| JHP794060E2R020.3Z4  | TAN   | 10072338    | 2            | E          | ■              | –   | 6,0  | 6,0  | 13,0  | 57,0  | 18,5 | 2,0  | 0,2  | 4     | Weldon | ■              |
| JHP794060E2R020.3Z4A | TAN   | 10072339    | 2            | E          | ■              | ■   | 6,0  | 6,0  | 13,0  | 57,0  | 18,5 | 5,5  | 0,2  | 4     | Weldon | ■              |
| JHP794080E2R020.3Z4  | TAN   | 10072340    | 2            | E          | ■              | –   | 8,0  | 8,0  | 19,0  | 63,0  | 24,5 | 7,5  | 0,2  | 4     | Weldon | ■              |
| JHP794080E2R020.3Z4A | TAN   | 10072341    | 2            | E          | ■              | ■   | 8,0  | 8,0  | 19,0  | 63,0  | 24,5 | 7,5  | 0,2  | 4     | Weldon | ■              |
| JHP794100E2R035.3Z4  | TAN   | 10072342    | 2            | E          | ■              | –   | 10,0 | 10,0 | 22,0  | 72,0  | 29,5 | 9,5  | 0,35 | 4     | Weldon | ■              |
| JHP794100E2R035.3Z4A | TAN   | 10072343    | 2            | E          | ■              | ■   | 10,0 | 10,0 | 22,0  | 72,0  | 29,5 | 9,5  | 0,35 | 4     | Weldon | ■              |
| JHP794120E2R035.3Z4  | TAN   | 10072344    | 2            | E          | ■              | –   | 12,0 | 12,0 | 26,0  | 83,0  | 35,5 | 11,4 | 0,35 | 4     | Weldon | ■              |
| JHP794120E2R035.3Z4A | TAN   | 10072345    | 2            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 92,0  | 35,5 | 11,4 | 0,35 | 4     | Weldon | ■              |
| JHP794160E2R040.3Z4  | TAN   | 10072346    | 2            | E          | ■              | –   | 16,0 | 16,0 | 32,0  | 92,0  | 41,5 | 15,2 | 0,4  | 4     | Weldon | ■              |
| JHP794160E2R040.3Z4A | TAN   | 10072347    | 2            | E          | ■              | ■   | 16,0 | 16,0 | 32,0  | 92,0  | 41,5 | 15,2 | 0,4  | 4     | Weldon | ■              |
| JHP794200E2R040.3Z4  | TAN   | 10072348    | 2            | E          | ■              | –   | 20,0 | 20,0 | 38,0  | 104,0 | 51,5 | 19,0 | 0,4  | 4     | Weldon | ■              |
| JHP794250E2R040.3Z4  | TAN   | 10072350    | 2            | E          | ■              | –   | 25,0 | 25,0 | 45,0  | 121,0 | 62,5 | 23,8 | 0,4  | 4     | Weldon | ■              |

■ Stocked standard.

#### Cutting data – JHP794 Side milling

| SMG |  | $a_p/DC$ | $f_z$   |        |        |        |        |        |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|---------|--------|--------|--------|--------|--------|--------|-----------------|
|     |                                                                                   |          | 6       | 8      | 10     | 12     | 16     | 20     | 25     |                 |
| M1  | E                                                                                 | 1.3      | 0.032   | 0.044  | 0.055  | 0.065  | 0.080  | 0.090  | 0.10   | 90 (61 — 120)   |
|     |                                                                                   | 1,3      | 0,0013  | 0,0017 | 0,0022 | 0,0026 | 0,0032 | 0,0036 | 0,0040 | 295 (210 — 390) |
| M2  | E                                                                                 | 1.3      | 0.030   | 0.040  | 0.048  | 0.060  | 0.070  | 0.085  | 0.095  | 75 (50 — 99)    |
|     |                                                                                   | 1,3      | 0,0012  | 0,0016 | 0,0019 | 0,0024 | 0,0028 | 0,0034 | 0,0038 | 245 (170 — 320) |
| M3  | E                                                                                 | 1.3      | 0.024   | 0.032  | 0.040  | 0.046  | 0.055  | 0.065  | 0.075  | 60 (40 — 78)    |
|     |                                                                                   | 1,3      | 0,00095 | 0,0013 | 0,0016 | 0,0018 | 0,0022 | 0,0026 | 0,0030 | 195 (140 — 250) |
| M4  | E                                                                                 | 1.3      | 0.020   | 0.028  | 0.034  | 0.040  | 0.050  | 0.060  | 0.065  | 45 (31 — 60)    |
|     |                                                                                   | 1,3      | 0,00080 | 0,0011 | 0,0013 | 0,0016 | 0,0020 | 0,0024 | 0,0026 | 150 (110 — 190) |
| M5  | E                                                                                 | 1.3      | 0.020   | 0.028  | 0.034  | 0.040  | 0.050  | 0.060  | 0.065  | 38 (26 — 50)    |
|     |                                                                                   | 1,3      | 0,00080 | 0,0011 | 0,0013 | 0,0016 | 0,0020 | 0,0024 | 0,0026 | 125 (86 — 160)  |

#### Cutting data – JHP794 Slot milling

| SMG |  | $a_p/DC$ | $f_z$   |        |        |        |        |        |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|---------|--------|--------|--------|--------|--------|--------|-----------------|
|     |                                                                                   |          | 6       | 8      | 10     | 12     | 16     | 20     | 25     |                 |
| M1  | E                                                                                 | 0.60     | 0.024   | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.095  | 75 (50 — 99)    |
|     |                                                                                   | 0,60     | 0,00095 | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0038 | 245 (170 — 320) |
| M2  | E                                                                                 | 0.60     | 0.024   | 0.032  | 0.040  | 0.048  | 0.065  | 0.080  | 0.090  | 60 (40 — 79)    |
|     |                                                                                   | 0,60     | 0,00095 | 0,0013 | 0,0016 | 0,0019 | 0,0026 | 0,0032 | 0,0036 | 195 (140 — 250) |
| M3  | E                                                                                 | 0.60     | 0.022   | 0.030  | 0.036  | 0.044  | 0.055  | 0.060  | 0.070  | 47 (32 — 62)    |
|     |                                                                                   | 0,60     | 0,00085 | 0,0012 | 0,0014 | 0,0017 | 0,0022 | 0,0024 | 0,0028 | 155 (110 — 200) |
| M4  | E                                                                                 | 0.60     | 0.019   | 0.026  | 0.032  | 0.038  | 0.048  | 0.055  | 0.060  | 36 (24 — 47)    |
|     |                                                                                   | 0,60     | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 0,0019 | 0,0022 | 0,0024 | 120 (79 — 150)  |
| M5  | E                                                                                 | 0.60     | 0.019   | 0.026  | 0.032  | 0.038  | 0.048  | 0.055  | 0.060  | 30 (20 — 39)    |
|     |                                                                                   | 0,60     | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 0,0019 | 0,0022 | 0,0024 | 100 (66 — 120)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

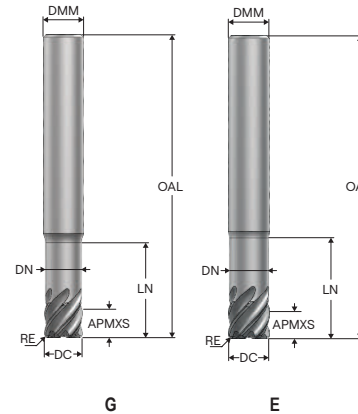
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

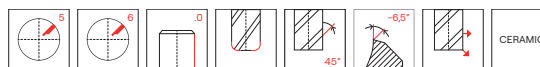
All cutting data are target values

#### JCG790

High performance – Square – Superalloy – 5-6 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM= h5
- DC= -0,02/-0,1 mm
- RE= ±0,05 mm



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
|                     |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |             |                |
| JCG790060E2R050.0Z5 | 10010512    | 2            | E          | 6,0  | 6,0  | 6,0   | 59,0  | 15,0 | 5,7  | 0,5 | 5     | Cylindrical | ■              |
| JCG790080E2R050.0Z5 | 10010513    | 2            | E          | 8,0  | 8,0  | 6,0   | 67,0  | 20,0 | 7,6  | 0,5 | 5     | Cylindrical | ■              |
| JCG790094G2R100.0Z6 | 10010514    | 2            | G          | 9,4  | 10,0 | 6,0   | 75,0  | 23,5 | 9,0  | 1,0 | 6     | Cylindrical | ■              |
| JCG790100E2R100.0Z6 | 10010515    | 2            | E          | 10,0 | 10,0 | 6,0   | 75,0  | 25,0 | 9,5  | 1,0 | 6     | Cylindrical | ■              |
| JCG790114G2R150.0Z6 | 10010516    | 2            | G          | 11,4 | 12,0 | 6,0   | 82,0  | 28,5 | 10,9 | 1,5 | 6     | Cylindrical | ■              |
| JCG790120E2R150.0Z6 | 10010517    | 2            | E          | 12,0 | 12,0 | 6,0   | 82,0  | 30,0 | 11,4 | 1,5 | 6     | Cylindrical | ■              |
| JCG790160E2R200.0Z6 | 10010518    | 2            | E          | 16,0 | 16,0 | 8,0   | 93,0  | 40,0 | 15,2 | 2,0 | 6     | Cylindrical | ■              |
| JCG790200E2R300.0Z6 | 10010519    | 2            | E          | 20,0 | 20,0 | 8,0   | 103,0 | 50,0 | 19,0 | 3,0 | 6     | Cylindrical | ■              |
| JCG790250E2R400.0Z6 | 10010520    | 2            | E          | 25,0 | 25,0 | 8,0   | 108,0 | 50,0 | 23,8 | 4,0 | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JCG790 Side milling roughing

| SMG |  | $a_e/DC$         | APMXS  | $f_z$            |                  |                 |                 |                 |                 |                 | $v_c$                                  |
|-----|-----------------------------------------------------------------------------------|------------------|--------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------------------------------|
|     |                                                                                   |                  |        | 6                | 8                | 10              | 12              | 16              | 20              | 25              |                                        |
| S1  | A/D                                                                               | 0.0500<br>0,0500 | 1<br>1 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 830 (420 — 1300)<br>2725 (1400 — 4200) |
| S2  | A/D                                                                               | 0.0500<br>0,0500 | 1<br>1 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 670 (340 — 1100)<br>2200 (1200 — 3600) |
| S3  | A/D                                                                               | 0.0500<br>0,0500 | 1<br>1 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 570 (290 — 950)<br>1875 (960 — 3100)   |

#### Cutting data – JCG790 Slot milling

| SMG |  | $a_p/DC$     | $f_z$            |                  |                 |                 |                 |                 |                 | $v_c$                                  |
|-----|-----------------------------------------------------------------------------------|--------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------------------------------|
|     |                                                                                   |              | 6                | 8                | 10              | 12              | 16              | 20              | 25              |                                        |
| S1  | A/D                                                                               | 0.05<br>0,05 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 830 (420 — 1300)<br>2725 (1400 — 4200) |
| S2  | A/D                                                                               | 0.05<br>0,05 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 670 (340 — 1100)<br>2200 (1200 — 3600) |
| S3  | A/D                                                                               | 0.05<br>0,05 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.075<br>0,0030 | 570 (290 — 950)<br>1875 (960 — 3100)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

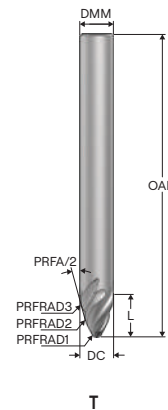
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

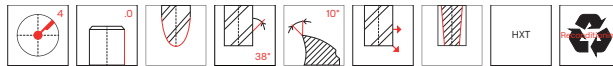
All cutting data are target values

JH724

High speed – ISO– M and ISO– S - Taper Shape – 4 Flutes – Cylindrical



- Tolerances:
- DMM=h5
- PRFRAD1=  $\pm 0.03$  mm
- Form tolerance PRFRAD2= 0.02 mm
- Regrind possible if PRFRAD is  $\geq 1,5$



| Designation          | Grade | Item number | Length index | Tool shape | DC   | DMM  | L    | AP-MXS | OAL  | PRFRAD1 | PRFRAD2 | PRFRAD3 | PRFA/2° | FCEDC | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|------|------|------|--------|------|---------|---------|---------|---------|-------|-------|-------------|----------------|
| JH724100T2R2R030.0Z4 | HXT   | 10106106    | 2            | T          | 10,0 | 10,0 | 12,3 | 12,3   | 89,0 | 2,0     | 30,0    | 5,0     | 20,0    | 4     | 4     | Cylindrical | ■              |
| JH724100T2R2R050.0Z4 | HXT   | 10106107    | 2            | T          | 10,0 | 10,0 | 12,5 | 12,5   | 89,0 | 2,0     | 50,0    | 5,0     | 20,0    | 4     | 4     | Cylindrical | ■              |
| JH724100T2R3R100.0Z4 | HXT   | 10106108    | 2            | T          | 10,0 | 10,0 | 10,7 | 10,7   | 89,0 | 3,0     | 100,0   | 5,0     | 20,0    | 4     | 4     | Cylindrical | ■              |
| JH724100T2R3R250.0Z4 | HXT   | 10106109    | 2            | T          | 10,0 | 10,0 | 10,8 | 10,8   | 89,0 | 3,0     | 250,0   | 5,0     | 20,0    | 4     | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH724 Copy milling finishing

| SMG |  | $a_e/DC$       | $f_z$          | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|----------------|------------------------------------|
|     |                                                                                   |                |                |                                    |
| P12 | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 120 (95 - 135)<br>400 (310 - 445)  |
| M1  | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 150 (125 - 155)<br>490 (410 - 510) |
| M2  | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 145 (120 - 150)<br>475 (400 - 490) |
| M3  | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 130 (95 - 140)<br>425 (310 - 460)  |
| S2  | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 65 (55 - 75)<br>215 (180 - 245)    |
| S11 | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 130 (95 - 140)<br>425 (310 - 475)  |
| S12 | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 120 (95 - 135)<br>400 (310 - 445)  |
| S13 | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 95 (80 - 100)<br>310 (260 - 320)   |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

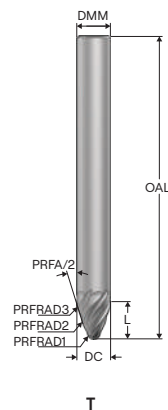
$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values



JH726

High speed – ISO– M and ISO– S – Taper Shape – 6 Flutes – Cylindrical



- Tolerances:
- DMM=h5
- PRFRAD1=  $\pm 0.03$  mm
- Form tolerance PRFRAD2= 0.02 mm
- Regrind possible if PRFRAD is  $\geq 1.5$



| Designation          | Grade | Item number | Length index | Tool shape | DC   | DMM  | L    | APMXS | OAL  | PRFRAD1 | PRFRAD2 | PRFRAD3 | PRFA/2° | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|------|------|------|-------|------|---------|---------|---------|---------|-------|-------------|----------------|
|                      |       |             |              |            | mm   | mm   | mm   | mm    | mm   | mm      | mm      | mm      |         |       |             |                |
| JH726100T2R2R030.0Z6 | HXT   | 10106110    | 2            | T          | 10,0 | 10,0 | 10,8 | 10,8  | 89,0 | 2,0     | 30,0    | 5,0     | 20,0    | 6     | Cylindrical | ■              |
| JH726100T2R2R050.0Z6 | HXT   | 10106111    | 2            | T          | 10,0 | 10,0 | 10,7 | 10,7  | 89,0 | 2,0     | 50,0    | 5,0     | 20,0    | 6     | Cylindrical | ■              |
| JH726100T2R3R100.0Z6 | HXT   | 10106112    | 2            | T          | 10,0 | 10,0 | 12,3 | 12,3  | 89,0 | 3,0     | 100,0   | 5,0     | 20,0    | 6     | Cylindrical | ■              |
| JH726100T2R3R250.0Z6 | HXT   | 10106113    | 2            | T          | 10,0 | 10,0 | 12,5 | 12,5  | 89,0 | 3,0     | 250,0   | 5,0     | 20,0    | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

## Stainless steel and S-materials

Non ferrous

Har

## Plastic and cfrp

Graphite

## X-Heads

## Minimaster

#### Cutting data – JH726 Copy milling finishing

| Universal           | SMG |  | $a_e/DC$       | $f_z$          | $v_c$                              |
|---------------------|-----|-----------------------------------------------------------------------------------|----------------|----------------|------------------------------------|
|                     |     |                                                                                   |                |                |                                    |
| Steel and cast iron | P12 | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 120 (95 - 135)<br>400 (310 - 445)  |
|                     | M1  | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 150 (125 - 155)<br>490 (410 - 510) |
|                     | M2  | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 145 (120 - 150)<br>475 (400 - 490) |
|                     | M3  | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 130 (95 - 140)<br>425 (310 - 460)  |
|                     | S2  | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 65 (55 - 75)<br>215 (180 - 245)    |
|                     | S11 | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 130 (95 - 140)<br>425 (310 - 475)  |
|                     | S12 | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 120 (95 - 135)<br>400 (310 - 445)  |
|                     | S13 | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 95 (80 - 100)<br>310 (260 - 320)   |
|                     |     |                                                                                   |                |                |                                    |
|                     |     |                                                                                   |                |                |                                    |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

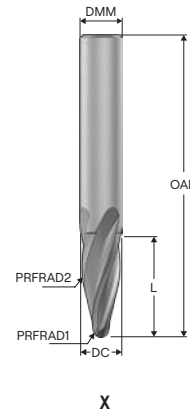
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

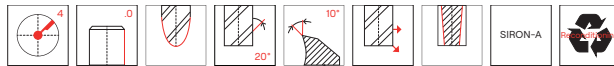
All cutting data are target values

JH734

High speed – ISO– M and ISO– S - Drop Shape – 4 Flutes – Cylindrical



- Tolerances:
- DMM= h5
- PRFRAD1=  $\pm 0.03\text{mm}$
- Form tolerance PRFRAD2=  $0.02\text{mm}$
- Regrind possible if PRFRAD is  $\geq 1,5$



| Designation         | Grade | Item number | Length index | Tool shape | DC   | DMM  | L    | APMXS | OAL  | PRFRAD1 | PRFRAD2 | PCEDC | Shank       | Stock standard |
|---------------------|-------|-------------|--------------|------------|------|------|------|-------|------|---------|---------|-------|-------------|----------------|
| JH734060X2R1R95.0Z4 | SIRA  | 10044783    | 2            | X          | 6,0  | 6,0  | 20,8 | 18,39 | 62,0 | 1,0     | 95,0    | 4     | Cylindrical | ■              |
| JH734080X2R1R90.0Z4 | SIRA  | 10044784    | 2            | X          | 8,0  | 8,0  | 24,5 | 22,05 | 68,0 | 1,0     | 90,0    | 4     | Cylindrical | ■              |
| JH734100X2R2R85.0Z4 | SIRA  | 10044785    | 2            | X          | 10,0 | 10,0 | 24,7 | 22,29 | 72,0 | 2,0     | 85,0    | 4     | Cylindrical | ■              |
| JH734120X2R2R80.0Z4 | SIRA  | 10044786    | 2            | X          | 12,0 | 12,0 | 27,3 | 24,87 | 83,0 | 2,0     | 80,0    | 4     | Cylindrical | ■              |
| JH734160X2R3R75.0Z4 | SIRA  | 10044787    | 2            | X          | 16,0 | 16,0 | 30,1 | 27,61 | 92,0 | 3,0     | 75,0    | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH734 Copy milling finishing

| SMG |  | a <sub>g</sub> /DC | f <sub>z</sub> |                |                |                |                | v <sub>c</sub>                     |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|------------------------------------|
|     |                                                                                   |                    | 6              | 8              | 10             | 12             | 16             |                                    |
| P8  | E                                                                                 | 0,010<br>0.010     | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 170 (150 - 195)<br>560 (490 - 640) |
| P12 | E                                                                                 | 0,010<br>0.010     | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 120 (95 - 135)<br>400 (310 - 445)  |
| M1  | E                                                                                 | 0,010<br>0.010     | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 150 (125 - 155)<br>490 (410 - 510) |
| M2  | E                                                                                 | 0,010<br>0.010     | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 145 (120 - 150)<br>475 (400 - 490) |
| M3  | E                                                                                 | 0,010<br>0.010     | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 130 (90 - 140)<br>425 (295 - 460)  |
| S2  | E                                                                                 | 0,010<br>0.010     | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 60 (50 - 70)<br>195 (165 - 230)    |
| S11 | E                                                                                 | 0,010<br>0.010     | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 100 (85 - 105)<br>320 (280 - 345)  |
| S12 | E                                                                                 | 0,010<br>0.010     | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 95 (80 - 100)<br>310 (260 - 320)   |
| S13 | E                                                                                 | 0,010<br>0.010     | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 90 (75 - 95)<br>295 (245 - 310)    |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

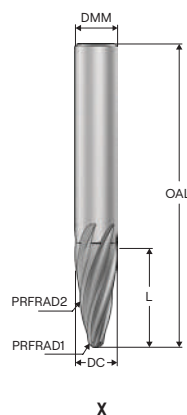
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

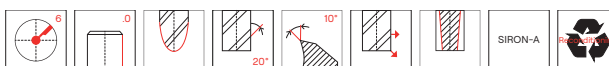
JH736

High speed – ISO– M and ISO– S – Drop Shape – 6 Flutes – Cylindrical



X

- Tolerances:
- DMM= h5
- PRFRAD1=  $\pm 0.03\text{mm}$
- Form tolerance PRFRAD2= 0.02mm
- Regrind possible



| Designation         | Grade | Item number | Length index | Tool shape | DC   | DMM  | L    | APMXS | OAL  | PRFRAD1 | PRFRAD2 | PCEDC | Shank       | Stock standard |
|---------------------|-------|-------------|--------------|------------|------|------|------|-------|------|---------|---------|-------|-------------|----------------|
| JH736100X2R2R85.0Z6 | SIRA  | 10044834    | 2            | X          | 10,0 | 10,0 | 24,7 | 22,29 | 72,0 | 2,0     | 85,0    | 6     | Cylindrical | ■              |
| JH736120X2R2R80.0Z6 | SIRA  | 10044835    | 2            | X          | 12,0 | 12,0 | 27,3 | 24,87 | 83,0 | 2,0     | 80,0    | 6     | Cylindrical | ■              |
| JH736160X2R3R75.0Z6 | SIRA  | 10044836    | 2            | X          | 16,0 | 16,0 | 30,1 | 27,61 | 92,0 | 3,0     | 75,0    | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

## Stainless steel and S-materials

Non ferrous

Hard

## Plastic and cfrp

Graphite

## X-Heads

Minimaster

#### Cutting data – JH736 Copy milling finishing

| SMG |  | a <sub>e</sub> /DC | f <sub>z</sub> |                |                | v <sub>c</sub>                     |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|----------------|----------------|------------------------------------|
|     |                                                                                   |                    | 10             | 12             | 16             |                                    |
| P8  | E                                                                                 | 0,010<br>0.010     | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 170 (150 - 195)<br>560 (490 - 640) |
| P12 | E                                                                                 | 0,010<br>0.010     | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 120 (95 - 135)<br>400 (310 - 445)  |
| M1  | E                                                                                 | 0,010<br>0.010     | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 150 (125 - 155)<br>490 (410 - 510) |
| M2  | E                                                                                 | 0,010<br>0.010     | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 145 (120 - 150)<br>475 (400 - 490) |
| M3  | E                                                                                 | 0,010<br>0.010     | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 130 (90 - 140)<br>425 (295 - 460)  |
| S2  | E                                                                                 | 0,010<br>0.010     | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 60 (50 - 70)<br>195 (165 - 230)    |
| S11 | E                                                                                 | 0,010<br>0.010     | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 100 (85 - 105)<br>320 (280 - 345)  |
| S12 | E                                                                                 | 0,010<br>0.010     | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 95 (80 - 100)<br>310 (260 - 320)   |
| S13 | E                                                                                 | 0,010<br>0.010     | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 90 (75 - 95)<br>295 (245 - 310)    |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

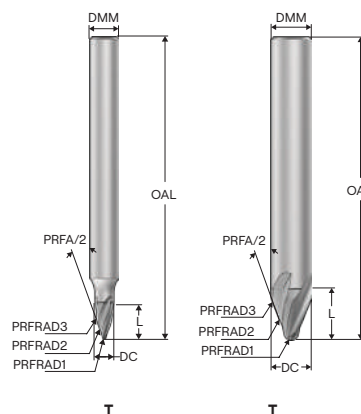
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

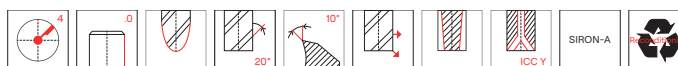
All cutting data are target values

JH744

High speed – ISO– M and ISO– S – Taper Shape – 4 Flutes – Cylindrical



- Tolerances:
- DMM= h5
- PRFRAD1=  $\pm 0.03\text{mm}$
- Form tolerance PRFRAD2= 0.02mm
- Regrind possible if PRFRAD1 is  $\geq 1,5$



| Regime possible in P-R-T-D-H-S-L-F |       |             |              |            |     |      |      |      |       |       |         |         |         |         |       |             |                |
|------------------------------------|-------|-------------|--------------|------------|-----|------|------|------|-------|-------|---------|---------|---------|---------|-------|-------------|----------------|
| Designation                        | Grade | Item number | Length index | Tool shape | CSP | DC   | DMM  | L    | APMXS | OAL   | PRFRAD1 | PRFRAD2 | PRFRAD3 | PRFA/2° | PCEDC | Shank       | Stock standard |
|                                    |       |             |              |            |     | mm   | mm   | mm   | mm    | mm    | mm      | mm      | mm      |         |       |             |                |
| JH744100T1R1.5R250.0Z4             | SIRA  | 10044920    | 1            | T          | –   | 10,0 | 10,0 | 5,4  | 1,62  | 72,0  | 1,5     | 250,0   | 2,0     | 65,0    | 4     | Cylindrical | ■              |
| JH744120T1R3R250.0Z4               | SIRA  | 10044921    | 1            | T          | –   | 12,0 | 12,0 | 10,5 | 5,33  | 89,0  | 3,0     | 250,0   | 6,0     | 32,5    | 4     | Cylindrical | ■              |
| JH744160T1R4R500.0Z4               | SIRA  | 10044922    | 1            | T          | –   | 16,0 | 16,0 | 14,6 | 8,95  | 108,0 | 4,0     | 500,0   | 8,0     | 27,5    | 4     | Cylindrical | ■              |
| JH744040T2R0.5R250.0Z4             | SIRA  | 10044923    | 2            | T          | –   | 4,0  | 6,0  | 7,6  | 4,7   | 62,0  | 0,5     | 250,0   | 3,0     | 17,5    | 4     | Cylindrical | ■              |
| JH744060T2R1R250.0Z4               | SIRA  | 10044924    | 2            | T          | –   | 6,0  | 6,0  | 9,6  | 6,71  | 62,0  | 1,0     | 250,0   | 3,0     | 17,5    | 4     | Cylindrical | ■              |
| JH744080T2R1.5R250.0Z4             | SIRA  | 10044925    | 2            | T          | –   | 8,0  | 8,0  | 10,7 | 7,42  | 68,0  | 1,5     | 250,0   | 4,0     | 20,0    | 4     | Cylindrical | ■              |
| JH744100T2R2R250.0Z4               | SIRA  | 10044926    | 2            | T          | –   | 10,0 | 10,0 | 12,7 | 9,04  | 75,0  | 2,0     | 250,0   | 5,0     | 20,0    | 4     | Cylindrical | ■              |
| JH744120T2R3R250.0Z4               | SIRA  | 10044927    | 2            | T          | –   | 12,0 | 12,0 | 13,7 | 9,71  | 89,0  | 3,0     | 250,0   | 6,0     | 20,0    | 4     | Cylindrical | ■              |
| JH744160T2R4R500.0Z4               | SIRA  | 10044928    | 2            | T          | –   | 16,0 | 16,0 | 17,6 | 12,94 | 108,0 | 4,0     | 500,0   | 8,0     | 20,0    | 4     | Cylindrical | ■              |
| JH744160T2R2R1000.0Z4              | SIRA  | 10044929    | 2            | T          | –   | 16,0 | 16,0 | 31,3 | 28,27 | 108,0 | 2,0     | 1000,0  | 5,0     | 12,5    | 4     | Cylindrical | ■              |
| JH744160T2R4R1000.0Z4              | SIRA  | 10044930    | 2            | T          | –   | 16,0 | 16,0 | 24,1 | 21,02 | 108,0 | 4,0     | 1000,0  | 5,0     | 12,5    | 4     | Cylindrical | ■              |
|                                    | SIRA  | 10044931    | 4            | T          | ■   | 16,0 | 16,0 | 24,1 | 21,02 | 150,0 | 4,0     | 1000,0  | 5,0     | 12,5    | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

## Stainless steel and S-materials

Non ferrous

Harc

## Plastic and cfrp

Graphite

## X-Heads

Minimaster

#### Cutting data – JH744 Copy milling finishing

| SMG |  | a <sub>e</sub> /DC | f <sub>z</sub> |                |                |                |                |                | v <sub>c</sub>                     |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------------------------|
|     |                                                                                   |                    | 4              | 6              | 8              | 10             | 12             | 16             |                                    |
| P8  | E                                                                                 | 0,010<br>0.010     | 0,02<br>0.0008 | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 170 (150 - 195)<br>560 (490 - 640) |
| P12 | E                                                                                 | 0,010<br>0.010     | 0,02<br>0.0008 | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 120 (95 - 135)<br>400 (310 - 445)  |
| M1  | E                                                                                 | 0,010<br>0.010     | 0,02<br>0.0008 | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 150 (125 - 155)<br>490 (410 - 510) |
| M2  | E                                                                                 | 0,010<br>0.010     | 0,02<br>0.0008 | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 145 (120 - 150)<br>475 (400 - 490) |
| M3  | E                                                                                 | 0,010<br>0.010     | 0,02<br>0.0008 | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 130 (90 - 140)<br>425 (295 - 460)  |
| S2  | E                                                                                 | 0,010<br>0.010     | 0,02<br>0.0008 | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 60 (50 - 70)<br>195 (165 - 230)    |
| S11 | E                                                                                 | 0,010<br>0.010     | 0,02<br>0.0008 | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 100 (85 - 105)<br>320 (280 - 345)  |
| S12 | E                                                                                 | 0,010<br>0.010     | 0,02<br>0.0008 | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 95 (80 - 100)<br>310 (260 - 320)   |
| S13 | E                                                                                 | 0,010<br>0.010     | 0,02<br>0.0008 | 0,03<br>0.0012 | 0,04<br>0.0016 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 90 (75 - 95)<br>295 (245 - 310)    |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

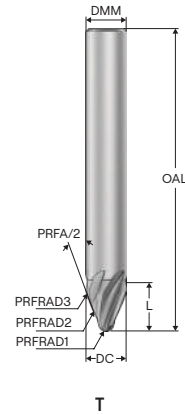
a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

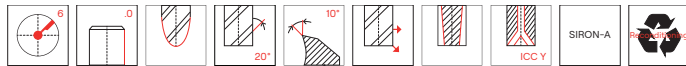


JH746

High speed – ISO– M and ISO– S – Taper Shape – 6 Flutes – Cylindrical



- Tolerances:
- DMM= h5
- PRFRAD1=  $\pm 0.03\text{mm}$
- Form tolerance PRFRAD2=  $0.02\text{mm}$
- Regrind possible



| Designation          | Grade | Item number | Length index | Tool shape | CSP | DC   | DMM  | L    | APMXS | OAL   | PRFRAD1 | PRFRAD2 | PRFRAD3 | PRFA/2° | FCEDC | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|-----|------|------|------|-------|-------|---------|---------|---------|---------|-------|-------|-------------|----------------|
|                      |       |             |              |            |     | mm   | mm   | mm   | mm    | mm    | mm      | mm      | mm      |         |       |       |             |                |
| JH746100T2R2R250.0Z6 | SIRA  | 10044958    | 2            | T          | –   | 10,0 | 10,0 | 12,7 | 9,04  | 75,0  | 2,0     | 250,0   | 5,0     | 20,0    | 6     | 6     | Cylindrical | ■              |
| JH746120T2R3R250.0Z6 | SIRA  | 10044959    | 2            | T          | –   | 12,0 | 12,0 | 13,7 | 9,71  | 89,0  | 3,0     | 250,0   | 6,0     | 20,0    | 6     | 6     | Cylindrical | ■              |
| JH746160T2R4R500.0Z6 | SIRA  | 10044960    | 2            | T          | –   | 16,0 | 16,0 | 17,6 | 12,94 | 108,0 | 4,0     | 500,0   | 8,0     | 20,0    | 6     | 6     | Cylindrical | ■              |
|                      | SIRA  | 10044961    | 4            | T          | ■   | 16,0 | 16,0 | 17,6 | 12,94 | 150,0 | 4,0     | 500,0   | 8,0     | 20,0    | 6     | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH746 Copy milling finishing

| SMG |  | $a_e/DC$       | $f_z$          |                |                | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|------------------------------------|
|     |                                                                                   |                | 10             | 12             | 16             |                                    |
| P8  | E                                                                                 | 0,010<br>0,010 | 0,05<br>0,0022 | 0,06<br>0,0024 | 0,08<br>0,0032 | 170 (150 - 195)<br>560 (490 - 640) |
| P12 | E                                                                                 | 0,010<br>0,010 | 0,05<br>0,0022 | 0,06<br>0,0024 | 0,08<br>0,0032 | 120 (95 - 135)<br>400 (310 - 445)  |
| M1  | E                                                                                 | 0,010<br>0,010 | 0,05<br>0,0022 | 0,06<br>0,0024 | 0,08<br>0,0032 | 150 (125 - 155)<br>490 (410 - 510) |
| M2  | E                                                                                 | 0,010<br>0,010 | 0,05<br>0,0022 | 0,06<br>0,0024 | 0,08<br>0,0032 | 145 (120 - 150)<br>475 (400 - 490) |
| M3  | E                                                                                 | 0,010<br>0,010 | 0,05<br>0,0022 | 0,06<br>0,0024 | 0,08<br>0,0032 | 130 (90 - 140)<br>425 (295 - 460)  |
| S2  | E                                                                                 | 0,010<br>0,010 | 0,05<br>0,0022 | 0,06<br>0,0024 | 0,08<br>0,0032 | 60 (50 - 70)<br>195 (165 - 230)    |
| S11 | E                                                                                 | 0,010<br>0,010 | 0,05<br>0,0022 | 0,06<br>0,0024 | 0,08<br>0,0032 | 100 (85 - 105)<br>320 (280 - 345)  |
| S12 | E                                                                                 | 0,010<br>0,010 | 0,05<br>0,0022 | 0,06<br>0,0024 | 0,08<br>0,0032 | 95 (80 - 100)<br>310 (260 - 320)   |
| S13 | E                                                                                 | 0,010<br>0,010 | 0,05<br>0,0022 | 0,06<br>0,0024 | 0,08<br>0,0032 | 90 (75 - 95)<br>295 (245 - 310)    |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

#### Cutting data – JH746 Copy milling roughing

| SMG |  | $a_e/DC$       | $f_z$          |                 |                 | $v_c$                              |
|-----|-------------------------------------------------------------------------------------|----------------|----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                     |                | 10             | 12              | 16              |                                    |
| P12 | E                                                                                   | 0,025<br>0,025 | 0,03<br>0,0012 | 0,036<br>0,0014 | 0,048<br>0,0019 | 120 (95 - 135)<br>400 (310 - 445)  |
| M1  | E                                                                                   | 0,025<br>0,025 | 0,03<br>0,0012 | 0,036<br>0,0014 | 0,048<br>0,0019 | 145 (120 - 150)<br>475 (400 - 490) |
| M2  | E                                                                                   | 0,025<br>0,025 | 0,03<br>0,0012 | 0,036<br>0,0014 | 0,048<br>0,0019 | 145 (120 - 150)<br>475 (400 - 490) |
| S12 | E                                                                                   | 0,025<br>0,025 | 0,03<br>0,0012 | 0,036<br>0,0014 | 0,048<br>0,0019 | 95 (80 - 100)<br>310 (270 - 320)   |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

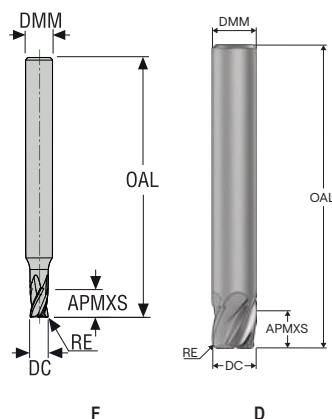
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

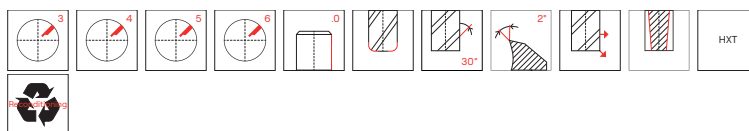
All cutting data are target values

JH770

High speed – CoCr/Titanium – Square – 3-4-5-6 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Regrind possible if DC is ≥Ø6



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | RE  | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|------|-----|-------|-------------|----------------|
| JH770030F2R020.0Z3-HXT | 03320783    | 2            | F          | mm   | mm   | mm    | mm   | mm  |       |             |                |
| JH770040F2R020.0Z4-HXT | 03320784    | 2            | F          | 3,0  | 6,0  | 5,0   | 58,0 | 0,2 | 3     | Cylindrical | ■              |
| JH770050F2R020.0Z4-HXT | 10000170    | 2            | F          | 4,0  | 6,0  | 6,0   | 58,0 | 0,2 | 4     | Cylindrical | ■              |
| JH770060D2R050.0Z4-HXT | 03127351    | 2            | D          | 5,0  | 6,0  | 7,0   | 58,0 | 0,2 | 4     | Cylindrical | ■              |
| JH770080D2R050.0Z4-HXT | 03127352    | 2            | D          | 6,0  | 6,0  | 8,0   | 50,0 | 0,5 | 4     | Cylindrical | ■              |
| JH770080D2R050.0Z5-HXT | 03127354    | 2            | D          | 8,0  | 8,0  | 10,0  | 58,0 | 0,5 | 4     | Cylindrical | ■              |
| JH770080D2R100.0Z5-HXT | 03127355    | 2            | D          | 8,0  | 8,0  | 10,0  | 58,0 | 1,0 | 5     | Cylindrical | ■              |
| JH770080D2R100.0Z6-HXT | 03127356    | 2            | D          | 8,0  | 8,0  | 10,0  | 58,0 | 1,0 | 6     | Cylindrical | ■              |
| JH770100D2R100.0Z5-HXT | 03127357    | 2            | D          | 10,0 | 10,0 | 12,0  | 66,0 | 1,0 | 5     | Cylindrical | ■              |
| JH770100D2R100.0Z6-HXT | 03127358    | 2            | D          | 10,0 | 10,0 | 12,0  | 66,0 | 1,0 | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH770 Side milling roughing PCEDC 3 and 4

| SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$             |                  |                  |                  | $v_c$                           |
|-----|-----------------------------------------------------------------------------------|----------------|--------------|-------------------|------------------|------------------|------------------|---------------------------------|
|     |                                                                                   |                |              | 3                 | 4                | 6                | 8                |                                 |
| S2  | E                                                                                 | 0.750<br>0,750 | 0.12<br>0,12 | 0.015<br>0,00060  | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016  | 50 (42 — 62)<br>165 (140 — 200) |
| S11 | E                                                                                 | 0.250<br>0,250 | 0.32<br>0,32 | 0.0075<br>0,00030 | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 65 (53 — 91)<br>215 (180 — 290) |
| S12 | E                                                                                 | 0.250<br>0,250 | 0.32<br>0,32 | 0.0075<br>0,00030 | 0.010<br>0,00040 | 0.015<br>0,00060 | 0.020<br>0,00080 | 50 (41 — 70)<br>165 (140 — 220) |

#### Cutting data – JH770 Side milling roughing PCEDC 6

| SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$            |                 | $v_c$                           |
|-----|-----------------------------------------------------------------------------------|----------------|--------------|------------------|-----------------|---------------------------------|
|     |                                                                                   |                |              | 8                | 10              |                                 |
| S2  | E                                                                                 | 0.750<br>0,750 | 0.12<br>0,12 | 0.050<br>0,0020  | 0.060<br>0,0024 | 55 (43 — 64)<br>180 (150 — 200) |
| S11 | E                                                                                 | 0.250<br>0,250 | 0.32<br>0,32 | 0.022<br>0,00085 | 0.026<br>0,0010 | 65 (54 — 93)<br>215 (180 — 300) |
| S12 | E                                                                                 | 0.250<br>0,250 | 0.32<br>0,32 | 0.022<br>0,00085 | 0.026<br>0,0010 | 50 (42 — 71)<br>165 (140 — 230) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

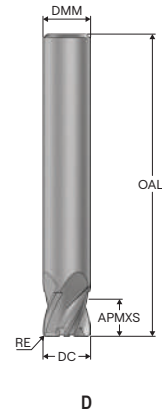
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

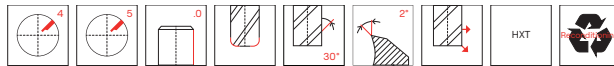
All cutting data are target values

# JH740

High speed – CoCr/Titanium – Bottom finisher – 4-5 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Regrind possible



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | RE   | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|------|------|-------|-------------|----------------|
|                        |             |              |            | mm   | mm   | mm    | mm   | mm   |       |             |                |
| JH740060D2R025.0Z4-HXT | 03127359    | 2            | D          | 6,0  | 6,0  | 6,0   | 50,0 | 0,25 | 4     | Cylindrical | ■              |
| JH740060D2R050.0Z4-HXT | 03127360    | 2            | D          | 6,0  | 6,0  | 6,0   | 50,0 | 0,5  | 4     | Cylindrical | ■              |
| JH740080D2R025.0Z4-HXT | 03127361    | 2            | D          | 8,0  | 8,0  | 8,0   | 58,0 | 0,25 | 4     | Cylindrical | ■              |
| JH740080D2R050.0Z4-HXT | 03127362    | 2            | D          | 8,0  | 8,0  | 8,0   | 58,0 | 0,5  | 4     | Cylindrical | ■              |
| JH740100D2R025.0Z5-HXT | 03127363    | 2            | D          | 10,0 | 10,0 | 10,0  | 66,0 | 0,25 | 5     | Cylindrical | ■              |
| JH740100D2R050.0Z5-HXT | 03127364    | 2            | D          | 10,0 | 10,0 | 10,0  | 66,0 | 0,5  | 5     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH740 Face finishing PCEDC 4

| SMG |  | $a_e/DC$       | $a_p/DC$         | $f_z$           |                 | $v_c$                           |
|-----|-----------------------------------------------------------------------------------|----------------|------------------|-----------------|-----------------|---------------------------------|
|     |                                                                                   |                |                  | 6               | 8               |                                 |
| S2  | E                                                                                 | 0.500<br>0,500 | 0.0060<br>0,0060 | 0.044<br>0,0017 | 0.060<br>0,0024 | 50 (40 — 59)<br>165 (140 — 190) |
| S11 | E                                                                                 | 0.500<br>0,500 | 0.0060<br>0,0060 | 0.044<br>0,0017 | 0.060<br>0,0024 | 65 (52 — 77)<br>215 (180 — 250) |
| S12 | E                                                                                 | 0.500<br>0,500 | 0.0060<br>0,0060 | 0.044<br>0,0017 | 0.060<br>0,0024 | 50 (40 — 59)<br>165 (140 — 190) |

#### Cutting data – JH740 Face finishing PCEDC 5

| SMG |  | $a_e/DC$       | $a_p/DC$         | $f_z$           | $v_c$                           |
|-----|-----------------------------------------------------------------------------------|----------------|------------------|-----------------|---------------------------------|
|     |                                                                                   |                |                  | 10              |                                 |
| S2  | E                                                                                 | 0.500<br>0,500 | 0.0065<br>0,0065 | 0.046<br>0,0018 | 48 (39 — 58)<br>155 (130 — 190) |
| S11 | E                                                                                 | 0.500<br>0,500 | 0.0065<br>0,0065 | 0.046<br>0,0018 | 65 (51 — 75)<br>215 (170 — 240) |
| S12 | E                                                                                 | 0.500<br>0,500 | 0.0065<br>0,0065 | 0.046<br>0,0018 | 48 (39 — 58)<br>155 (130 — 190) |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

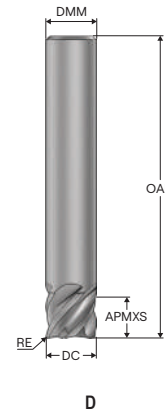
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

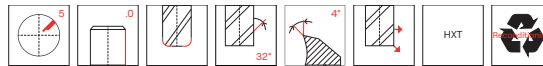
JH710

High speed – CoCr/Titanium – Square – 5 Flutes – Cylindrical – Corner radius



D

- Tolerances:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Regrind possible



| Designation            | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | RE   | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|-----|-----|-------|------|------|-------|-------------|----------------|
|                        |             |              |            | mm  | mm  | mm    | mm   | mm   |       |             |                |
| JH710060D2R025.0Z5-HXT | 03127365    | 2            | D          | 6,0 | 6,0 | 6,0   | 57,0 | 0,25 | 5     | Cylindrical | ■              |
| JH710060D2R050.0Z5-HXT | 03127366    | 2            | D          | 6,0 | 6,0 | 6,0   | 57,0 | 0,5  | 5     | Cylindrical | ■              |
| JH710080D2R025.0Z5-HXT | 03127367    | 2            | D          | 8,0 | 8,0 | 8,0   | 63,0 | 0,25 | 5     | Cylindrical | ■              |
| JH710080D2R050.0Z5-HXT | 03127368    | 2            | D          | 8,0 | 8,0 | 8,0   | 63,0 | 0,5  | 5     | Cylindrical | ■              |
| JH710080D2R100.0Z5-HXT | 03127369    | 2            | D          | 8,0 | 8,0 | 8,0   | 63,0 | 1,0  | 5     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH710 Side milling finishing

| SMG |  | $a_e/DC$                  | $a_p/DC$            | $f_z$                  |                        | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|---------------------------|---------------------|------------------------|------------------------|------------------------------------|
|     |                                                                                   |                           |                     | 6                      | 8                      |                                    |
| S1  | E                                                                                 | 0.00800<br><i>0,00800</i> | 0.65<br><i>0,65</i> | 0.034<br><i>0,0013</i> | 0.044<br><i>0,0017</i> | 100 (79 — 110)<br>330 (260 — 360)  |
| S2  | E                                                                                 | 0.00800<br><i>0,00800</i> | 0.65<br><i>0,65</i> | 0.034<br><i>0,0013</i> | 0.044<br><i>0,0017</i> | 100 (79 — 110)<br>330 (260 — 360)  |
| S3  | E                                                                                 | 0.00800<br><i>0,00800</i> | 0.65<br><i>0,65</i> | 0.034<br><i>0,0013</i> | 0.044<br><i>0,0017</i> | 100 (79 — 110)<br>330 (260 — 360)  |
| S11 | E                                                                                 | 0.00800<br><i>0,00800</i> | 0.65<br><i>0,65</i> | 0.036<br><i>0,0014</i> | 0.046<br><i>0,0018</i> | 180 (160 — 200)<br>590 (530 — 650) |
| S12 | E                                                                                 | 0.00800<br><i>0,00800</i> | 0.65<br><i>0,65</i> | 0.036<br><i>0,0014</i> | 0.046<br><i>0,0018</i> | 135 (120 — 150)<br>445 (400 — 490) |
| S13 | E                                                                                 | 0.00800<br><i>0,00800</i> | 0.65<br><i>0,65</i> | 0.032<br><i>0,0013</i> | 0.040<br><i>0,0016</i> | 105 (92 — 120)<br>345 (310 — 390)  |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Non ferrous

Hard

Plastic and cfrp

Graphite

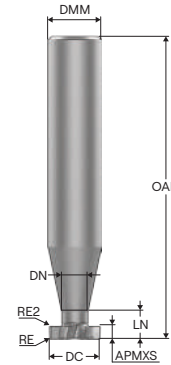
X-Heads

Minimaster



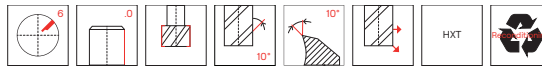
JH790

High speed – CoCr/Titanium – T Cutter – 6 Flutes – Cylindrical



G

- Tolerances:
- DMM=h5
- DC=  $\pm 0,02$  mm
- RE=  $\pm 0,02$  mm
- Regrind possible



| Designation            | Item number | Length index | Tool shape | DC  | DMM  | APMXS | OAL  | LN  | DN  | RE   | RE2  | CA°  | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|-----|------|-------|------|-----|-----|------|------|------|-------|-------------|----------------|
| JH790095G2R025.0Z6-HXT | 03127370    | 2            | G          | 9,5 | 10,0 | 2,0   | 66,0 | 5,0 | 5,0 | 0,25 | 0,25 | 0,94 | 6     | Cylindrical | ■              |
| JH790095G2R050.0Z6-HXT | 03127371    | 2            | G          | 9,5 | 10,0 | 2,0   | 66,0 | 5,0 | 5,0 | 0,5  | 0,5  | 0,96 | 6     | Cylindrical | ■              |
| JH790095G3R025.0Z6-HXT | 03127372    | 3            | G          | 9,5 | 10,0 | 2,54  | 66,0 | 5,0 | 5,0 | 0,25 | 0,25 | 0,94 | 6     | Cylindrical | ■              |
| JH790095G3R050.0Z6-HXT | 03127373    | 3            | G          | 9,5 | 10,0 | 2,54  | 66,0 | 5,0 | 5,0 | 0,5  | 0,5  | 0,96 | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH790 (T) Side milling roughing

| SMG |  | $a_e/DC$              | $a_p/DC$            | $f_z$                   | $v_c$                                   |
|-----|-----------------------------------------------------------------------------------|-----------------------|---------------------|-------------------------|-----------------------------------------|
|     |                                                                                   |                       |                     |                         |                                         |
| S2  | E                                                                                 | 0.189<br><i>0,189</i> | 0.19<br><i>0,19</i> | 0.030<br><i>0,0012</i>  | 39 (31 — 50)<br><i>130 (110 — 160)</i>  |
| S11 | E                                                                                 | 0.189<br><i>0,189</i> | 0.19<br><i>0,19</i> | 0.022<br><i>0,00085</i> | 85 (66 — 100)<br><i>280 (220 — 320)</i> |
| S12 | E                                                                                 | 0.189<br><i>0,189</i> | 0.19<br><i>0,19</i> | 0.022<br><i>0,00085</i> | 65 (51 — 80)<br><i>215 (170 — 260)</i>  |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

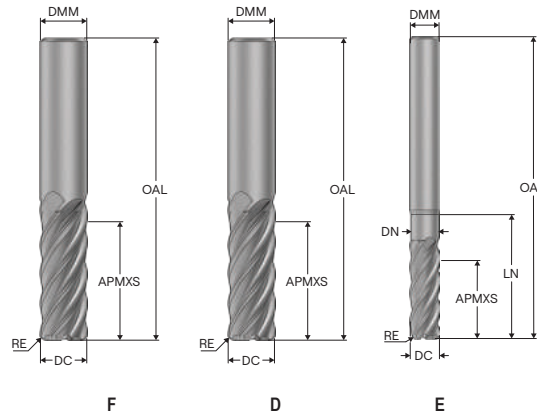
Graphite

X-Heads

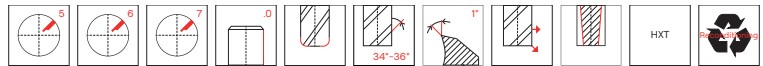
Minimaster

## JH730

High speed – CoCr/Titanium – Square – 5-6-7 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Regrind possible



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | LN   | DN  | RE  | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|------|------|-----|-----|-------|-------------|----------------|
|                        |             |              |            | mm   | mm   | mm    | mm   | mm   | mm  | mm  |       |             |                |
| JH730060E2R050.0Z5-HXT | 10217826    | 2            | E          | 6,0  | 6,0  | 19,0  | 65,0 | 25,0 | 5,7 | 0,5 | 5     | Cylindrical | ■              |
| JH730060E2R100.0Z5-HXT | 10217827    | 2            | E          | 6,0  | 6,0  | 19,0  | 65,0 | 25,0 | 5,7 | 1,0 | 5     | Cylindrical | ■              |
| JH730060E2R150.0Z5-HXT | 10217828    | 2            | E          | 6,0  | 6,0  | 19,0  | 65,0 | 25,0 | 5,7 | 1,5 | 5     | Cylindrical | ■              |
| JH730075F2R050.0Z6-HXT | 10217829    | 2            | F          | 7,5  | 8,0  | 24,0  | 63,0 | —    | —   | 0,5 | 6     | Cylindrical | ■              |
| JH730075F2R100.0Z6-HXT | 10217830    | 2            | F          | 7,5  | 8,0  | 24,0  | 63,0 | —    | —   | 1,0 | 6     | Cylindrical | ■              |
| JH730075F2R150.0Z6-HXT | 10217831    | 2            | F          | 7,5  | 8,0  | 24,0  | 63,0 | —    | —   | 1,5 | 6     | Cylindrical | ■              |
| JH730080D2R050.0Z6-HXT | 03127375    | 2            | D          | 8,0  | 8,0  | 25,0  | 63,0 | —    | —   | 0,5 | 6     | Cylindrical | ■              |
| JH730080D2R100.0Z6-HXT | 03127377    | 2            | D          | 8,0  | 8,0  | 25,0  | 63,0 | —    | —   | 1,0 | 6     | Cylindrical | ■              |
| JH730080D2R150.0Z6-HXT | 03127378    | 2            | D          | 8,0  | 8,0  | 25,0  | 63,0 | —    | —   | 1,5 | 6     | Cylindrical | ■              |
| JH730080D2R200.0Z6-HXT | 03127379    | 2            | D          | 8,0  | 8,0  | 25,0  | 63,0 | —    | —   | 2,0 | 6     | Cylindrical | ■              |
| JH730100D2R100.0Z7-HXT | 03127380    | 2            | D          | 10,0 | 10,0 | 31,0  | 72,0 | —    | —   | 1,0 | 7     | Cylindrical | ■              |
| JH730100D2R250.0Z7-HXT | 03127381    | 2            | D          | 10,0 | 10,0 | 31,0  | 72,0 | —    | —   | 2,5 | 7     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH730 Side milling finishing

| SMG |  | $a_e/DC$              | $a_p/DC$          | $f_z$                   |                         |                         |                         | $v_c$                                     |
|-----|-----------------------------------------------------------------------------------|-----------------------|-------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------------------------|
|     |                                                                                   |                       |                   | 6                       | 7.5                     | 8                       | 10                      |                                           |
| S2  | E                                                                                 | 0,065<br><i>0.065</i> | 1,3<br><i>1.3</i> | 0,015<br><i>0.00060</i> | 0,019<br><i>0.00075</i> | 0,020<br><i>0.00080</i> | 0,025<br><i>0.0010</i>  | 80 (63 — 94)<br><i>260 (210 — 300)</i>    |
| S11 | E                                                                                 | 0,065<br><i>0.065</i> | 1,3<br><i>1.3</i> | 0,012<br><i>0.00048</i> | 0,015<br><i>0.00060</i> | 0,017<br><i>0.00065</i> | 0,020<br><i>0.00080</i> | 135 (110 — 160)<br><i>445 (370 — 520)</i> |
| S12 | E                                                                                 | 0,065<br><i>0.065</i> | 1,3<br><i>1.3</i> | 0,012<br><i>0.00048</i> | 0,015<br><i>0.00060</i> | 0,017<br><i>0.00065</i> | 0,020<br><i>0.00080</i> | 105 (84 — 120)<br><i>345 (280 — 390)</i>  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

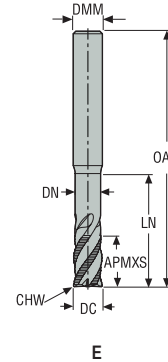
Graphite

X-Heads

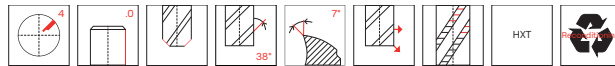
Minimaster

## JHP994

High performance – CoCr/Titanium – Square – 4 Flutes – Cylindrical – Chamfer



- Tolerances:
- DMM=h5
- DC=−0,02/−0,1 mm
- CHW=0/−0,1 mm
- Regrind possible



| Designation          | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL  | LN   | DN  | CHW | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|----------------|------|------|-------|------|------|-----|-----|-------|-------------|----------------|
| JHP994060E3C.0Z4-HXT | 03127382    | 3            | E          | ■              | 6,0  | 6,0  | 14,0  | 63,0 | 24,0 | 5,6 | 0,2 | 4     | Cylindrical | ■              |
| JHP994080E3C.0Z4-HXT | 03127383    | 3            | E          | ■              | 8,0  | 8,0  | 18,0  | 69,0 | 32,0 | 7,4 | 0,2 | 4     | Cylindrical | ■              |
| JHP994100E3C.0Z4-HXT | 03127384    | 3            | E          | ■              | 10,0 | 10,0 | 22,0  | 88,0 | 40,0 | 9,4 | 0,2 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JHP994 Side milling roughing

| SMG |  | $a_e/DC$                | $a_p/DC$            | $f_z$                  |                        |                        | $v_c$                                  |
|-----|-----------------------------------------------------------------------------------|-------------------------|---------------------|------------------------|------------------------|------------------------|----------------------------------------|
|     |                                                                                   |                         |                     | 6                      | 8                      | 10                     |                                        |
| S2  | E                                                                                 | 0.0480<br><i>0,0480</i> | 2.0<br><i>2,0</i>   | 0.025<br><i>0,0010</i> | 0.032<br><i>0,0013</i> | 0.042<br><i>0,0017</i> | 55 (40 — 69)<br><i>180 (140 — 220)</i> |
| S11 | E                                                                                 | 0.450<br><i>0,450</i>   | 0.60<br><i>0,60</i> | 0.025<br><i>0,0010</i> | 0.034<br><i>0,0013</i> | 0.042<br><i>0,0017</i> | 50 (39 — 77)<br><i>165 (130 — 250)</i> |
| S12 | E                                                                                 | 0.450<br><i>0,450</i>   | 0.60<br><i>0,60</i> | 0.025<br><i>0,0010</i> | 0.034<br><i>0,0013</i> | 0.042<br><i>0,0017</i> | 40 (30 — 59)<br><i>130 (99 — 190)</i>  |

#### Cutting data – JHP994 Slot milling

| SMG |  | $a_p/DC$            | $f_z$                   |                         |                         | $v_c$                                  |
|-----|-----------------------------------------------------------------------------------|---------------------|-------------------------|-------------------------|-------------------------|----------------------------------------|
|     |                                                                                   |                     | 6                       | 8                       | 10                      |                                        |
| S2  | E                                                                                 | 2.0<br><i>2,0</i>   | 0.011<br><i>0,00044</i> | 0.014<br><i>0,00055</i> | 0.018<br><i>0,00070</i> | 33 (24 — 41)<br><i>110 (79 — 130)</i>  |
| S11 | E                                                                                 | 0.60<br><i>0,60</i> | 0.025<br><i>0,0010</i>  | 0.034<br><i>0,0013</i>  | 0.042<br><i>0,0017</i>  | 42 (32 — 63)<br><i>140 (110 — 200)</i> |
| S12 | E                                                                                 | 0.60<br><i>0,60</i> | 0.025<br><i>0,0010</i>  | 0.034<br><i>0,0013</i>  | 0.042<br><i>0,0017</i>  | 33 (25 — 48)<br><i>110 (83 — 150)</i>  |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

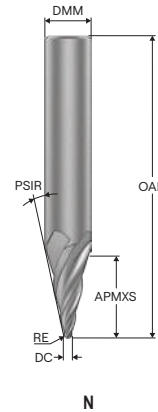
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

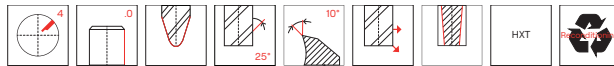
All cutting data are target values

JH780

High speed – CoCr/Titanium – Tapered ball nose – 4 Flutes – Cylindrical



- Tolerances:
- DMM=h5
- DC=  $\pm 0,04$  mm
- RE=  $\pm 0,01$  mm
- Regrind possible



| Designation            | Item number | Length index | Tool shape | DCX | DC    | DMM | APMXS | OAL  | RE  | PSIR°  | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|-----|-------|-----|-------|------|-----|--------|-------|-------------|----------------|
| JH780018N2R100.0Z4-HXT | 03127386    | 2            | N          | mm  | mm    | mm  | mm    | mm   | mm  |        |       |             |                |
| JH780028N2R150.0Z4-HXT | 03127387    | 2            | N          | 8,0 | 1,827 | 8,0 | 23,5  | 63,0 | 1,0 | 5,1838 | 4     | Cylindrical | ■              |
| JH780038N2R200.0Z4-HXT | 03127388    | 2            | N          | 8,0 | 2,803 | 8,0 | 23,5  | 63,0 | 1,5 | 3,8915 | 4     | Cylindrical | ■              |
| JH780049N2R250.0Z4-HXT | 03127389    | 2            | N          | 8,0 | 3,823 | 8,0 | 23,5  | 63,0 | 2,0 | 2,5972 | 4     | Cylindrical | ■              |
| JH780049N2R250.0Z4-HXT | 03127389    | 2            | N          | 8,0 | 4,888 | 8,0 | 23,5  | 63,0 | 2,5 | 1,3003 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH780 Copy milling roughing

| SMG |  | $a_e/DC$ | $a_p/DC$ | $f_z$   |         |         |         | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|----------|---------|---------|---------|---------|-----------------|
|     |                                                                                   |          |          | 1.8     | 2.8     | 3.8     | 4.9     |                 |
| S2  | E                                                                                 | 0.0510   | 4.2      | 0.0080  | 0.012   | 0.017   | 0.022   | 70 (54 — 86)    |
|     |                                                                                   | 0,0510   | 4,2      | 0,00032 | 0,00048 | 0,00065 | 0,00085 | 230 (180 — 280) |
| S12 | E                                                                                 | 0.0510   | 4.2      | 0.0060  | 0.0090  | 0.013   | 0.016   | 95 (76 — 110)   |
|     |                                                                                   | 0,0510   | 4,2      | 0,00024 | 0,00036 | 0,00050 | 0,00065 | 310 (250 — 360) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

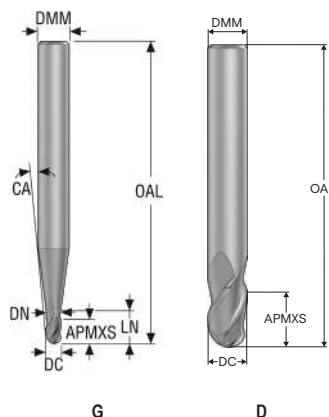
X-Heads

Minimaster

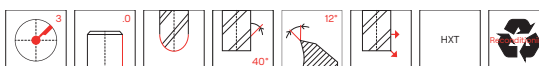


### JHB720

High speed – Titanium – Ball nose – 3 Flutes – Cylindrical



- Tolerances:
- DMM=h5
- DC= -0,02/-0,04 mm
- RE= ±0,01 mm
- Regrind possible if DC is ≥ Ø6



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN  | DN  | RE   | CA° | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|-----|-----|------|-----|-------|-------------|----------------|
|                  |       |             |              |            | mm   | mm   | mm    | mm    | mm  | mm  | mm   |     |       |             |                |
| JHB720020G2B.0Z3 | HXT   | 10072323    | 2            | G          | 2,0  | 6,0  | 3,0   | 60,0  | 6,0 | 1,9 | 1,0  | 7,0 | 3     | Cylindrical | ■              |
| JHB720030G2B.0Z3 | HXT   | 10072324    | 2            | G          | 3,0  | 6,0  | 4,5   | 60,0  | 6,5 | 2,8 | 1,5  | 5,0 | 3     | Cylindrical | ■              |
| JHB720035G2B.0Z3 | HXT   | 10072325    | 2            | G          | 3,5  | 6,0  | 5,0   | 65,0  | 7,0 | 3,2 | 1,75 | 3,5 | 3     | Cylindrical | ■              |
| JHB720040G2B.0Z3 | HXT   | 10072326    | 2            | G          | 4,0  | 6,0  | 6,0   | 65,0  | 8,0 | 3,7 | 2,0  | 3,0 | 3     | Cylindrical | ■              |
| JHB720060D2B.0Z3 | HXT   | 10072327    | 2            | D          | 6,0  | 6,0  | 9,0   | 75,0  | —   | —   | 3,0  | —   | 3     | Cylindrical | ■              |
| JHB720080D2B.0Z3 | HXT   | 10072328    | 2            | D          | 8,0  | 8,0  | 12,0  | 75,0  | —   | —   | 4,0  | —   | 3     | Cylindrical | ■              |
| JHB720100D2B.0Z3 | HXT   | 10072329    | 2            | D          | 10,0 | 10,0 | 15,0  | 80,0  | —   | —   | 5,0  | —   | 3     | Cylindrical | ■              |
| JHB720120D2B.0Z3 | HXT   | 10072330    | 2            | D          | 12,0 | 12,0 | 18,0  | 90,0  | —   | —   | 6,0  | —   | 3     | Cylindrical | ■              |
| JHB720160D2B.0Z3 | HXT   | 10072331    | 2            | D          | 16,0 | 16,0 | 24,0  | 100,0 | —   | —   | 8,0  | —   | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JHB720 Side milling

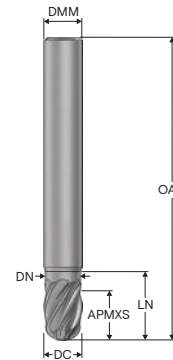
|                     | SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                  |                  |                  |                  |                 |                 |                 | v <sub>c</sub>                        |
|---------------------|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|---------------------------------------|
|                     |     |                                                                                   |                    |                    | 2                 | 3                 | 3.5              | 4                | 6                | 8                | 10              | 12              | 16              |                                       |
| Universal           | M1  | E                                                                                 | 0.200<br>0,200     | 1.2<br>1,2         | 0.0080<br>0,00032 | 0.012<br>0,00048  | 0.014<br>0,00055 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 85 (62 — 110)<br>280 (210 — 360)      |
|                     | M2  | E                                                                                 | 0.200<br>0,200     | 1.2<br>1,2         | 0.0080<br>0,00032 | 0.012<br>0,00048  | 0.014<br>0,00055 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 70 (51 — 90)<br>230 (170 — 290)       |
|                     | M3  | E                                                                                 | 0.200<br>0,200     | 1.2<br>1,2         | 0.0080<br>0,00032 | 0.012<br>0,00048  | 0.014<br>0,00055 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 65 (46 — 84)<br>215 (160 — 270)       |
|                     | M4  | E                                                                                 | 0.200<br>0,200     | 1.2<br>1,2         | 0.0070<br>0,00028 | 0.011<br>0,00044  | 0.012<br>0,00048 | 0.014<br>0,00055 | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 50 (35 — 65)<br>165 (120 — 210)       |
|                     | M5  | E                                                                                 | 0.200<br>0,200     | 1.2<br>1,2         | 0.0070<br>0,00028 | 0.011<br>0,00044  | 0.012<br>0,00048 | 0.014<br>0,00055 | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.050<br>0,0020 | 42 (29 — 54)<br>140 (96 — 170)        |
| Steel and cast iron | N1  | E/M/A                                                                             | 0.400<br>0,400     | 1.2<br>1,2         | 0.020<br>0,00080  | 0.030<br>0,0012   | 0.036<br>0,0014  | 0.040<br>0,0016  | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 600 (500 — 690)<br>1975 (1700 — 2200) |
|                     | N2  | E/M/A                                                                             | 0.400<br>0,400     | 1.2<br>1,2         | 0.016<br>0,00065  | 0.024<br>0,00095  | 0.028<br>0,0011  | 0.032<br>0,0013  | 0.048<br>0,0019  | 0.065<br>0,0026  | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 500 (400 — 600)<br>1650 (1400 — 1900) |
|                     | N3  | E/M/A                                                                             | 0.400<br>0,400     | 1.2<br>1,2         | 0.016<br>0,00065  | 0.024<br>0,00095  | 0.028<br>0,0011  | 0.032<br>0,0013  | 0.048<br>0,0019  | 0.065<br>0,0026  | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048  | 335 (270 — 400)<br>1100 (890 — 1300)  |
|                     | N11 | E/M/A                                                                             | 0.300<br>0,300     | 1.2<br>1,2         | 0.012<br>0,00048  | 0.018<br>0,00070  | 0.022<br>0,00085 | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.048<br>0,0019  | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 300 (260 — 340)<br>980 (860 — 1100)   |
|                     | S1  | E                                                                                 | 0.100<br>0,100     | 1.2<br>1,2         | 0.0065<br>0,00026 | 0.0095<br>0,00038 | 0.011<br>0,00044 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010  | 0.032<br>0,0013 | 0.038<br>0,0015 | 0.048<br>0,0019 | 43 (29 — 57)<br>140 (96 — 180)        |
| Non ferrous         | S2  | E                                                                                 | 0.100<br>0,100     | 1.2<br>1,2         | 0.0065<br>0,00026 | 0.0095<br>0,00038 | 0.011<br>0,00044 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010  | 0.032<br>0,0013 | 0.038<br>0,0015 | 0.048<br>0,0019 | 35 (24 — 46)<br>115 (79 — 150)        |
|                     | S3  | E                                                                                 | 0.100<br>0,100     | 1.2<br>1,2         | 0.0060<br>0,00024 | 0.0090<br>0,00036 | 0.011<br>0,00044 | 0.012<br>0,00048 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 30 (21 — 39)<br>100 (69 — 120)        |
|                     | S11 | E                                                                                 | 0.300<br>0,300     | 1.2<br>1,2         | 0.010<br>0,00040  | 0.015<br>0,00060  | 0.018<br>0,00070 | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 90 (79 — 100)<br>295 (260 — 320)      |
|                     | S12 | E                                                                                 | 0.300<br>0,300     | 1.2<br>1,2         | 0.010<br>0,00040  | 0.015<br>0,00060  | 0.018<br>0,00070 | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 70 (61 — 80)<br>230 (210 — 260)       |
|                     | S13 | E                                                                                 | 0.300<br>0,300     | 1.2<br>1,2         | 0.0085<br>0,00034 | 0.013<br>0,00050  | 0.015<br>0,00060 | 0.017<br>0,00065 | 0.026<br>0,0010  | 0.034<br>0,0013  | 0.044<br>0,0017 | 0.050<br>0,0020 | 0.065<br>0,0026 | 55 (48 — 63)<br>180 (160 — 200)       |
| Hard                | TS1 | A                                                                                 | 0.400<br>0,400     | 1.2<br>1,2         | 0.020<br>0,00080  | 0.030<br>0,0012   | 0.036<br>0,0014  | 0.040<br>0,0016  | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 500 (400 — 600)<br>1650 (1400 — 1900) |
|                     | TP1 | M                                                                                 | 0.400<br>0,400     | 1.2<br>1,2         | 0.020<br>0,00080  | 0.030<br>0,0012   | 0.036<br>0,0014  | 0.040<br>0,0016  | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 500 (400 — 600)<br>1650 (1400 — 1900) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
v<sub>c</sub> = m/min (sf/min)  
f<sub>z</sub> = mm (in/tooth)  
a<sub>p</sub> = mm/DC (in/DC) = factor  
a<sub>e</sub> = mm/DC (in/DC) = factor  
All cutting data are target values

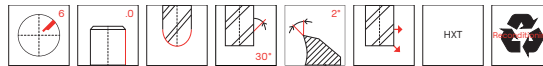
JH721

High speed – CoCr/Titanium – Ball nose – 6 Flutes – Cylindrical



E

- Tolerances:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Regrind possible



| Designation         | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN  | RE      | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|-----|-----|-------|------|------|-----|---------|-------|-------------|----------------|
| JH721060E2B.0Z6-HXT | 03127390    | 2            | E          | 6,0 | 6,0 | 10,0  | 57,0 | 12,0 | 5,6 | 2,987   | 6     | Cylindrical | ■              |
| JH721080E2B.0Z6-HXT | 03127391    | 2            | E          | 8,0 | 8,0 | 13,0  | 58,0 | 16,0 | 7,4 | 3,98375 | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH721 Copy milling finishing

| SMG |  | $a_e/DC$         | $a_p/DC$       | $f_z$           |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|------------------|----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                  |                | 6               | 8               |                                    |
| S2  | E                                                                                 | 0.0424<br>0,0424 | 0.040<br>0,040 | 0.032<br>0,0013 | 0.042<br>0,0017 | 120 (110 — 140)<br>395 (370 — 450) |
| S11 | E                                                                                 | 0.0424<br>0,0424 | 0.040<br>0,040 | 0.032<br>0,0013 | 0.042<br>0,0017 | 210 (140 — 230)<br>690 (460 — 750) |
| S12 | E                                                                                 | 0.0424<br>0,0424 | 0.040<br>0,040 | 0.032<br>0,0013 | 0.042<br>0,0017 | 160 (110 — 180)<br>520 (370 — 590) |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

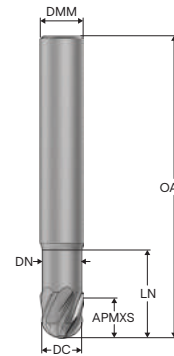
Graphite

X-Heads

Minimaster

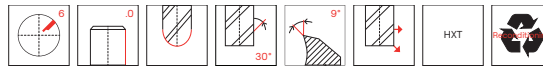
JH722

High speed – CoCr/Titanium – Ball nose – 6 Flutes – Cylindrical



E

- Tolerances:
- DMM=h5
- DC=e7
- RE= ±0,01 mm
- Regrind possible



| Designation         | Item number | Length index | Tool shape | DC         | DMM        | APMXS      | OAL        | LN         | DN        | RE            | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------------|------------|------------|------------|------------|-----------|---------------|-------|-------------|----------------|
| JH722100E2B.0Z6-HXT | 03127392    | 2            | E          | mm<br>10,0 | mm<br>10,0 | mm<br>10,0 | mm<br>72,0 | mm<br>20,0 | mm<br>9,4 | mm<br>4,98375 | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH722 Copy milling finishing

| SMG |  | $a_e/DC$         | $a_p/DC$     | $f_z$           | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|------------------|--------------|-----------------|------------------------------------|
|     |                                                                                   |                  |              |                 |                                    |
|     |                                                                                   |                  |              | 10              |                                    |
| S2  | E                                                                                 | 0.0500<br>0,0500 | 0.15<br>0,15 | 0.065<br>0,0026 | 125 (110 — 150)<br>410 (370 — 490) |
| S11 | E                                                                                 | 0.0500<br>0,0500 | 0.15<br>0,15 | 0.048<br>0,0019 | 210 (190 — 230)<br>690 (630 — 750) |
| S12 | E                                                                                 | 0.0500<br>0,0500 | 0.15<br>0,15 | 0.048<br>0,0019 | 160 (150 — 180)<br>520 (500 — 590) |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

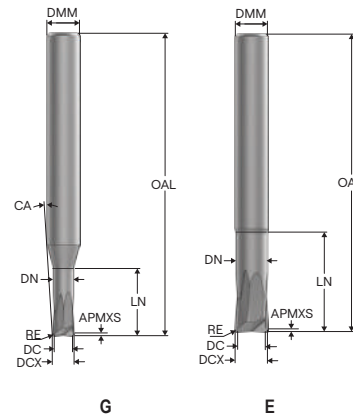
Graphite

X-Heads

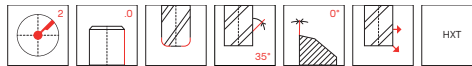
Minimaster

### SHF712

High feed – ISO– S – 2 Flutes – Cylindrical – Corner radius



- Tolerances:
- Run-out = <0,005 mm
- DMM = h5
- DC G- Shape = 0/-0,01 mm
- DC E- Shape = 0,005/-0,015 mm
- RE = ±0,005 mm



| Designation         | Grade | Item number | Length index | Tool shape | DCX | DC  | DMM | APMXS | OAL  | LN   | DN   | RE  | CA°  | PSIR° | PCEDC | Shank       | Stock standard |
|---------------------|-------|-------------|--------------|------------|-----|-----|-----|-------|------|------|------|-----|------|-------|-------|-------------|----------------|
| SHF712040G2R050.0Z2 | HXT   | 10106493    | 2            | G          | mm  | mm  | mm  | mm    | mm   | mm   | mm   | mm  | mm   |       |       |             |                |
| SHF712060E2R050.0Z2 | HXT   | 10106494    | 2            | E          | 4,0 | 3,0 | 6,0 | 0,5   | 55,0 | 12,0 | 3,8  | 0,5 | 3,9  | 1,5   | 2     | Cylindrical | ■              |
| SHF712030G3R050.0Z2 | HXT   | 10106495    | 3            | G          | 6,0 | 5,0 | 6,0 | 0,5   | 55,0 | 18,0 | 5,7  | 0,5 | —    | 1,5   | 2     | Cylindrical | ■              |
| SHF712040G3R050.0Z2 | HXT   | 10106496    | 3            | G          | 3,0 | 2,0 | 6,0 | 0,5   | 55,0 | 12,0 | 2,85 | 0,5 | 5,65 | 1,5   | 2     | Cylindrical | ■              |
| SHF712060E3R050.0Z2 | HXT   | 10106497    | 3            | E          | 4,0 | 3,0 | 6,0 | 0,5   | 55,0 | 16,0 | 3,8  | 0,5 | 3,07 | 1,5   | 2     | Cylindrical | ■              |
| SHF712030G4R050.0Z2 | HXT   | 10106498    | 4            | G          | 6,0 | 5,0 | 6,0 | 0,5   | 55,0 | 25,0 | 5,7  | 0,5 | —    | 1,5   | 2     | Cylindrical | ■              |
| SHF712030G4R050.0Z2 | HXT   | 10106498    | 4            | G          | 3,0 | 2,0 | 6,0 | 0,5   | 55,0 | 16,0 | 2,85 | 0,5 | 4,47 | 1,5   | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and CFRP

Graphite

X-Heads

Minimaster

#### Cutting data – SFH712 Side milling

| SMG |  | $a_e/DCX$    | $a_p/DCX$      | $f_z$           |                 |                | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|--------------|----------------|-----------------|-----------------|----------------|------------------------------------|
|     |                                                                                   |              |                | 3               | 4               | 6              |                                    |
| S2  | E                                                                                 | 0,30<br>0.30 | 0,050<br>0.050 | 0,055<br>0.0022 | 0,075<br>0.0030 | 0,11<br>0.0044 | 65 (51 — 76)<br>215 (170 — 240)    |
| S12 | E                                                                                 | 0,30<br>0.30 | 0,050<br>0.050 | 0,085<br>0.0034 | 0,12<br>0.0048  | 0,17<br>0.0065 | 170 (150 — 190)<br>560 (500 — 620) |

#### Cutting data – SFH712 Slot milling

| SMG |  | $a_p/DCX$      | $f_z$           |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                | 3               | 4               | 6               |                                    |
| S2  | E                                                                                 | 0,050<br>0.050 | 0,046<br>0.0018 | 0,060<br>0.0024 | 0,090<br>0.0036 | 50 (41 — 60)<br>165 (140 — 190)    |
| S12 | E                                                                                 | 0,050<br>0.050 | 0,046<br>0.0018 | 0,060<br>0.0024 | 0,090<br>0.0036 | 145 (130 — 160)<br>475 (430 — 520) |

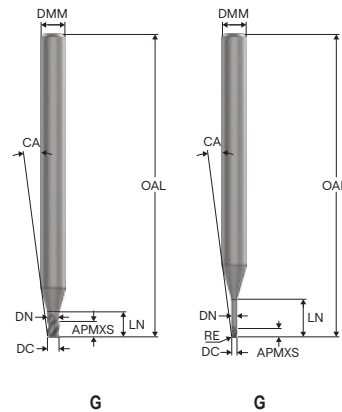
For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
 Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
 All cutting data are target values

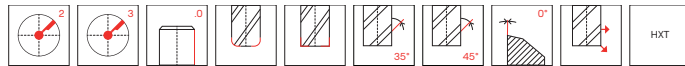


## SME714/716

Miniature – ISO– S – Square – 2-3 Flutes – Cylindrical – Sharp or corner radius



- Tolerances:
- Run-out = <0,005 mm
- DMM = h5
- DC = 0/-0,01 mm
- RE = ±0,005 mm



| Designation         | Grade | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°  | PCEDC | Shank       | Stock standard |
|---------------------|-------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|------|-------|-------------|----------------|
|                     |       |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm   |      |       |             |                |
| SME714020G1S.0Z3    | HXT   | 10107349    | 1            | G          | 2,0 | 4,0 | 2,0   | 50,0 | 4,0  | 1,9  | —    | 6,86 | 3     | Cylindrical | ■              |
| SME716020G1S.0Z3    | HXT   | 10107360    | 1            | G          | 2,0 | 6,0 | 2,0   | 50,0 | 4,0  | 1,9  | —    | 9,42 | 3     | Cylindrical | ■              |
| SME714020G3R010.0Z3 | HXT   | 10107350    | 3            | G          | 2,0 | 4,0 | 2,5   | 50,0 | 8,0  | 1,9  | 0,1  | 4,68 | 3     | Cylindrical | ■              |
| SME716020G3R010.0Z3 | HXT   | 10107361    | 3            | G          | 2,0 | 6,0 | 2,5   | 50,0 | 8,0  | 1,9  | 0,1  | 7,14 | 3     | Cylindrical | ■              |
| SME716010G4R010.0Z3 | HXT   | 10107362    | 4            | G          | 1,0 | 6,0 | 1,2   | 50,0 | 6,0  | 0,95 | 0,1  | 9,03 | 3     | Cylindrical | ■              |
| SME716015G4R010.0Z3 | HXT   | 10107363    | 4            | G          | 1,5 | 6,0 | 1,8   | 50,0 | 10,0 | 1,4  | 0,1  | 6,79 | 3     | Cylindrical | ■              |
| SME714010G4R010.0Z3 | HXT   | 10107351    | 4            | G          | 2,0 | 4,0 | 1,2   | 50,0 | 6,0  | 0,95 | 0,1  | 7,13 | 3     | Cylindrical | ■              |
| SME714015G4R010.0Z3 | HXT   | 10107352    | 4            | G          | 2,0 | 4,0 | 1,8   | 50,0 | 10,0 | 1,4  | 0,1  | 4,72 | 3     | Cylindrical | ■              |
| SME714020G4R010.0Z3 | HXT   | 10107353    | 4            | G          | 2,0 | 4,0 | 2,5   | 50,0 | 12,0 | 1,9  | 0,1  | 3,53 | 3     | Cylindrical | ■              |
| SME716020G4R010.0Z3 | HXT   | 10107364    | 4            | G          | 2,0 | 6,0 | 2,5   | 50,0 | 12,0 | 1,9  | 0,1  | 5,72 | 3     | Cylindrical | ■              |
| SME714015G5R010.0Z3 | HXT   | 10107354    | 5            | G          | 1,5 | 4,0 | 1,8   | 50,0 | 12,0 | 1,4  | 0,1  | 3,38 | 3     | Cylindrical | ■              |
| SME716015G5R010.0Z3 | HXT   | 10107365    | 5            | G          | 1,5 | 6,0 | 1,8   | 50,0 | 12,0 | 1,4  | 0,1  | 6,15 | 3     | Cylindrical | ■              |
| SME714020G5R010.0Z3 | HXT   | 10107355    | 5            | G          | 2,0 | 4,0 | 2,5   | 50,0 | 16,0 | 1,9  | 0,1  | 2,83 | 3     | Cylindrical | ■              |
| SME716020G5R010.0Z3 | HXT   | 10107366    | 5            | G          | 2,0 | 6,0 | 2,5   | 50,0 | 16,0 | 1,9  | 0,1  | 4,77 | 3     | Cylindrical | ■              |
| SME714005G6R005.0Z2 | HXT   | 10107356    | 6            | G          | 0,5 | 4,0 | 0,6   | 50,0 | 5,0  | 0,45 | 0,05 | 8,31 | 2     | Cylindrical | ■              |
| SME716005G6R005.0Z2 | HXT   | 10107367    | 6            | G          | 0,5 | 6,0 | 0,6   | 50,0 | 5,0  | 0,45 | 0,05 | 9,93 | 2     | Cylindrical | ■              |
| SME714010G6R010.0Z3 | HXT   | 10107357    | 6            | G          | 1,0 | 4,0 | 1,2   | 50,0 | 12,0 | 0,95 | 0,1  | 4,77 | 3     | Cylindrical | ■              |
| SME716010G6R010.0Z3 | HXT   | 10107368    | 6            | G          | 1,0 | 6,0 | 1,6   | 50,0 | 12,0 | 0,95 | 0,1  | 6,56 | 3     | Cylindrical | ■              |
| SME714015G6R010.0Z3 | HXT   | 10107358    | 6            | G          | 1,5 | 4,0 | 1,8   | 50,0 | 16,0 | 1,4  | 0,1  | 3,38 | 3     | Cylindrical | ■              |
| SME716015G6R010.0Z3 | HXT   | 10107369    | 6            | G          | 1,5 | 6,0 | 1,8   | 50,0 | 16,0 | 1,4  | 0,1  | 5,16 | 3     | Cylindrical | ■              |
| SME714010G7R010.0Z3 | HXT   | 10107359    | 7            | G          | 1,0 | 4,0 | 1,2   | 50,0 | 16,0 | 0,95 | 0,1  | 3,9  | 3     | Cylindrical | ■              |
| SME716010G7R010.0Z3 | HXT   | 10107370    | 7            | G          | 1,0 | 6,0 | 1,2   | 50,0 | 16,0 | 0,95 | 0,1  | 5,55 | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

Graphite

X-Heads

Minimaster

### Cutting data – SME714 Side milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                  |                  | v <sub>c</sub>                   |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-------------------|-------------------|------------------|------------------|----------------------------------|
|     |                                                                                   |                    |                    | 0.5               | 1                 | 1.5              | 2                |                                  |
| S2  | E                                                                                 | 0,0800<br>0.0800   | 0,070<br>0.070     | 0,0036<br>0.00014 | 0,0070<br>0.00028 | 0,010<br>0.00040 | 0,014<br>0.00055 | 60 (31 — 120)<br>195 (110 — 390) |
| S12 | E                                                                                 | 0,0800<br>0.0800   | 0,070<br>0.070     | 0,0036<br>0.00014 | 0,0070<br>0.00028 | 0,010<br>0.00040 | 0,014<br>0.00055 | 65 (33 — 130)<br>215 (110 — 420) |

### Cutting data – SME714 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                  |                  | v <sub>c</sub>                 |
|-----|-----------------------------------------------------------------------------------|--------------------|-------------------|-------------------|------------------|------------------|--------------------------------|
|     |                                                                                   |                    | 0.5               | 1                 | 1.5              | 2                |                                |
| S2  | E                                                                                 | 0,070<br>0.070     | 0,0036<br>0.00014 | 0,0070<br>0.00028 | 0,010<br>0.00040 | 0,014<br>0.00055 | 41 (21 — 82)<br>135 (69 — 260) |
| S12 | E                                                                                 | 0,070<br>0.070     | 0,0036<br>0.00014 | 0,0070<br>0.00028 | 0,010<br>0.00040 | 0,014<br>0.00055 | 45 (23 — 89)<br>150 (76 — 290) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
v<sub>c</sub> = m/min (sf/min)  
f<sub>z</sub> = mm (in/tooth)  
a<sub>p</sub> = mm/DC (in/DC) = factor  
a<sub>e</sub> = mm/DC (in/DC) = factor  
All cutting data are target values

### Cutting data – SME716 Side milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                  |                  | v <sub>c</sub>                   |
|-----|-------------------------------------------------------------------------------------|--------------------|--------------------|-------------------|-------------------|------------------|------------------|----------------------------------|
|     |                                                                                     |                    |                    | 0.5               | 1                 | 1.5              | 2                |                                  |
| S2  | E                                                                                   | 0,0800<br>0.0800   | 0,070<br>0.070     | 0,0036<br>0.00014 | 0,0070<br>0.00028 | 0,010<br>0.00040 | 0,014<br>0.00055 | 60 (31 — 120)<br>195 (110 — 390) |
| S12 | E                                                                                   | 0,0800<br>0.0800   | 0,070<br>0.070     | 0,0036<br>0.00014 | 0,0070<br>0.00028 | 0,010<br>0.00040 | 0,014<br>0.00055 | 65 (33 — 130)<br>215 (110 — 420) |

### Cutting data – SME716 Slot milling

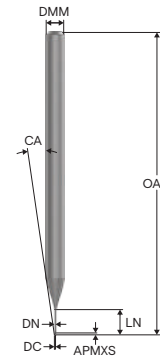
| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                  |                  | v <sub>c</sub>                 |
|-----|-------------------------------------------------------------------------------------|--------------------|-------------------|-------------------|------------------|------------------|--------------------------------|
|     |                                                                                     |                    | 0.5               | 1                 | 1.5              | 2                |                                |
| S2  | E                                                                                   | 0,070<br>0.070     | 0,0036<br>0.00014 | 0,0070<br>0.00028 | 0,010<br>0.00040 | 0,014<br>0.00055 | 41 (21 — 82)<br>135 (69 — 260) |
| S12 | E                                                                                   | 0,070<br>0.070     | 0,0036<br>0.00014 | 0,0070<br>0.00028 | 0,010<br>0.00040 | 0,014<br>0.00055 | 45 (23 — 89)<br>150 (76 — 290) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
v<sub>c</sub> = m/min (sf/min)  
f<sub>z</sub> = mm (in/tooth)  
a<sub>p</sub> = mm/DC (in/DC) = factor  
a<sub>e</sub> = mm/DC (in/DC) = factor  
All cutting data are target values

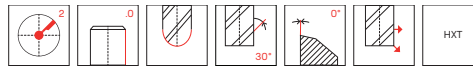
## SMB713/714/716

Miniature – ISO– S – Ball nose – 2 Flutes – Cylindrical



G

- Tolerances:
- Run-out = <0,005 mm
- DMM = h5
- DC = 0/-0,01 mm
- RE = ±0,005 mm



| Designation      | Grade | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°   | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|-------|-------|-------------|----------------|
|                  |       |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm   |       |       |             |                |
| SMB714020G2B.022 | HXT   | 10109582    | 2            | G          | 2,0 | 4,0 | 2,0   | 50,0 | 6,0  | 1,9  | 1,0  | 6,13  | 2     | Cylindrical | ■              |
| SMB716020G2B.022 | HXT   | 10109596    | 2            | G          | 2,0 | 6,0 | 2,0   | 50,0 | 6,0  | 1,9  | 1,0  | 8,72  | 2     | Cylindrical | ■              |
| SMB714030G2B.022 | HXT   | 10109583    | 2            | G          | 3,0 | 4,0 | 3,0   | 50,0 | 9,0  | 2,85 | 1,5  | 2,85  | 2     | Cylindrical | ■              |
| SMB716030G2B.022 | HXT   | 10109597    | 2            | G          | 3,0 | 6,0 | 3,0   | 50,0 | 9,0  | 2,85 | 1,5  | 6,22  | 2     | Cylindrical | ■              |
| SMB714030G3B.022 | HXT   | 10109584    | 3            | G          | 3,0 | 4,0 | 3,0   | 50,0 | 12,0 | 2,85 | 1,5  | 2,2   | 2     | Cylindrical | ■              |
| SMB716030G3B.022 | HXT   | 10109598    | 3            | G          | 3,0 | 6,0 | 3,0   | 50,0 | 12,0 | 2,85 | 1,5  | 5,11  | 2     | Cylindrical | ■              |
| SMB714015G4B.022 | HXT   | 10109585    | 4            | G          | 1,5 | 4,0 | 1,5   | 50,0 | 9,0  | 1,4  | 0,75 | 5,29  | 2     | Cylindrical | ■              |
| SMB716015G4B.022 | HXT   | 10109599    | 4            | G          | 1,5 | 6,0 | 1,5   | 50,0 | 9,0  | 1,4  | 0,75 | 7,44  | 2     | Cylindrical | ■              |
| SMB714020G4B.022 | HXT   | 10109586    | 4            | G          | 2,0 | 4,0 | 2,0   | 50,0 | 10,0 | 1,9  | 1,0  | 4,3   | 2     | Cylindrical | ■              |
| SMB716020G4B.022 | HXT   | 10109600    | 4            | G          | 2,0 | 6,0 | 2,0   | 50,0 | 10,0 | 1,9  | 1,0  | 6,69  | 2     | Cylindrical | ■              |
| SMB714005G5B.022 | HXT   | 10109587    | 5            | G          | 0,5 | 4,0 | 0,5   | 50,0 | 4,0  | 0,45 | 0,25 | 9,23  | 2     | Cylindrical | ■              |
| SMB716005G5B.022 | HXT   | 10109601    | 5            | G          | 0,5 | 6,0 | 0,5   | 50,0 | 4,0  | 0,45 | 0,25 | 10,73 | 2     | Cylindrical | ■              |
| SMB714010G5B.022 | HXT   | 10109588    | 5            | G          | 1,0 | 4,0 | 1,0   | 50,0 | 10,0 | 0,95 | 0,5  | 5,5   | 2     | Cylindrical | ■              |
| SMB716010G5B.022 | HXT   | 10109602    | 5            | G          | 1,0 | 6,0 | 1,0   | 50,0 | 10,0 | 0,95 | 0,5  | 7,37  | 2     | Cylindrical | ■              |
| SMB714015G5B.022 | HXT   | 10109589    | 5            | G          | 1,5 | 4,0 | 1,5   | 50,0 | 12,0 | 1,4  | 0,75 | 4,41  | 2     | Cylindrical | ■              |
| SMB716015G5B.022 | HXT   | 10109603    | 5            | G          | 1,5 | 6,0 | 1,5   | 50,0 | 12,0 | 1,4  | 0,75 | 6,35  | 2     | Cylindrical | ■              |
| SMB714020G5B.022 | HXT   | 10109590    | 5            | G          | 2,0 | 4,0 | 2,0   | 50,0 | 16,0 | 1,9  | 1,0  | 2,96  | 2     | Cylindrical | ■              |
| SMB716020G5B.022 | HXT   | 10109604    | 5            | G          | 2,0 | 6,0 | 2,0   | 50,0 | 16,0 | 1,9  | 1,0  | 4,96  | 2     | Cylindrical | ■              |
| SMB713003G6B.022 | HXT   | 10109581    | 6            | G          | 0,3 | 3,0 | 0,3   | 50,0 | 4,0  | 0,28 | 0,15 | 8,24  | 2     | Cylindrical | ■              |
| SMB714005G6B.022 | HXT   | 10109591    | 6            | G          | 0,5 | 4,0 | 0,5   | 50,0 | 6,0  | 0,45 | 0,25 | 7,8   | 2     | Cylindrical | ■              |
| SMB716005G6B.022 | HXT   | 10109605    | 6            | G          | 0,5 | 6,0 | 0,5   | 50,0 | 6,0  | 0,45 | 0,25 | 9,46  | 2     | Cylindrical | ■              |
| SMB714010G6B.022 | HXT   | 10109592    | 6            | G          | 1,0 | 4,0 | 1,0   | 50,0 | 12,0 | 0,95 | 0,5  | 4,97  | 2     | Cylindrical | ■              |
| SMB716010G6B.022 | HXT   | 10109606    | 6            | G          | 1,0 | 6,0 | 1,0   | 50,0 | 12,0 | 0,95 | 0,5  | 6,69  | 2     | Cylindrical | ■              |
| SMB714015G6B.022 | HXT   | 10109593    | 6            | G          | 1,5 | 4,0 | 1,5   | 50,0 | 16,0 | 1,4  | 0,75 | 3,49  | 2     | Cylindrical | ■              |
| SMB716015G6B.022 | HXT   | 10109607    | 6            | G          | 1,5 | 6,0 | 1,5   | 55,0 | 16,0 | 1,4  | 0,75 | 5,31  | 2     | Cylindrical | ■              |
| SMB714005G7B.022 | HXT   | 10109594    | 7            | G          | 0,5 | 4,0 | 0,5   | 50,0 | 9,0  | 0,45 | 0,25 | 6,33  | 2     | Cylindrical | ■              |
| SMB716005G7B.022 | HXT   | 10109608    | 7            | G          | 0,5 | 6,0 | 0,5   | 50,0 | 9,0  | 0,45 | 0,25 | 8,03  | 2     | Cylindrical | ■              |
| SMB714010G7B.022 | HXT   | 10109595    | 7            | G          | 1,0 | 4,0 | 1,0   | 50,0 | 16,0 | 0,95 | 0,5  | 3,98  | 2     | Cylindrical | ■              |
| SMB716010G7B.022 | HXT   | 10109609    | 7            | G          | 1,0 | 6,0 | 1,0   | 55,0 | 16,0 | 0,95 | 0,5  | 5,64  | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

Graphite

X-Heads

Minimaster

## Cutting data – SMB713 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$       | $f_z$              | $v_c$                          |
|-----|-----------------------------------------------------------------------------------|------------------|----------------|--------------------|--------------------------------|
|     |                                                                                   |                  |                | 0.3                |                                |
| S2  | E                                                                                 | 0,0600<br>0.0600 | 0,050<br>0.050 | 0,0020<br>0.000080 | 47 (26 — 64)<br>155 (86 — 200) |
| S12 | E                                                                                 | 0,0600<br>0.0600 | 0,050<br>0.050 | 0,0020<br>0.000080 | 47 (26 — 64)<br>155 (86 — 200) |

## Cutting data – SMB714 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$       | $f_z$             |                   |                  |                  |                  | $v_c$                           |
|-----|-----------------------------------------------------------------------------------|------------------|----------------|-------------------|-------------------|------------------|------------------|------------------|---------------------------------|
|     |                                                                                   |                  |                | 0.5               | 1                 | 1.5              | 2                | 3                |                                 |
| S2  | E                                                                                 | 0,0600<br>0.0600 | 0,050<br>0.050 | 0,0036<br>0.00014 | 0,0070<br>0.00028 | 0,010<br>0.00040 | 0,014<br>0.00055 | 0,020<br>0.00080 | 60 (33 — 81)<br>195 (110 — 260) |
| S12 | E                                                                                 | 0,0600<br>0.0600 | 0,050<br>0.050 | 0,0036<br>0.00014 | 0,0070<br>0.00028 | 0,010<br>0.00040 | 0,014<br>0.00055 | 0,020<br>0.00080 | 60 (33 — 81)<br>195 (110 — 260) |

## Cutting data – SMB716 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$       | $f_z$             |                   |                  |                  |                  | $v_c$                           |
|-----|-----------------------------------------------------------------------------------|------------------|----------------|-------------------|-------------------|------------------|------------------|------------------|---------------------------------|
|     |                                                                                   |                  |                | 0.5               | 1                 | 1.5              | 2                | 3                |                                 |
| S2  | E                                                                                 | 0,0600<br>0.0600 | 0,050<br>0.050 | 0,0036<br>0.00014 | 0,0070<br>0.00028 | 0,010<br>0.00040 | 0,014<br>0.00055 | 0,020<br>0.00080 | 60 (33 — 81)<br>195 (110 — 260) |
| S12 | E                                                                                 | 0,0600<br>0.0600 | 0,050<br>0.050 | 0,0036<br>0.00014 | 0,0070<br>0.00028 | 0,010<br>0.00040 | 0,014<br>0.00055 | 0,020<br>0.00080 | 60 (33 — 81)<br>195 (110 — 260) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values



## NON FERROUS

Seco offers a complete range of high performance solid carbide square shoulder end mills, ballnose cutters and finish end mills for high productivity for non ferrous materials.

- JS412 and JS413 for sharp corner type.
- JS452, JS453, S4521, S4531 and S4651 with 45° chamfer type.
- JS452, JS453, S4521, S4531, S4651, HP4931, S4931, JH40, HP4931, S4931 JH421, JM403, JM404, JM406, JH410 and JH440 for radius type.
- S4321, JH450, JH460, SMB413, SMB414, SMB416, JM413 and JM416 for ball-nose type.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Tool selection Non ferrous

|                     |             |    |    |    |    |    |
|---------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                     |             |    |    |    |    |    |
| Name                |             | JS412                                                                               | JS413                                                                               | S4521                                                                               | S4531                                                                                 | S4651                                                                                 |
| Page(s)             |             | 443                                                                                 | 446                                                                                 | 449                                                                                 | 454                                                                                   | 463                                                                                   |
| Family name         |             | SOLID <sup>2</sup>                                                                  | SOLID <sup>2</sup>                                                                  | SOLID <sup>2</sup>                                                                  | SOLID <sup>2</sup>                                                                    | SOLID <sup>2</sup>                                                                    |
| Type of mill        |             |    |    |    |    |    |
| Shank               | Cylindrical | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                     | ■                                                                                     |
|                     | Weldon      | ■                                                                                   | ■                                                                                   | □                                                                                   | □                                                                                     | □                                                                                     |
|                     | Safelock    |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Number of Flutes    |             | 2                                                                                   | 3                                                                                   | 2                                                                                   | 3                                                                                     | 5                                                                                     |
| CSP                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       | ■                                                                                     |
| Diameter range      | Metric      | 2-20                                                                                | 2-20                                                                                | 2-20                                                                                | 2-20                                                                                  | 6-20                                                                                  |
|                     | Inch        |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Length availability |             | 2                                                                                   | 2,3                                                                                 | 2,3                                                                                 | 2,3                                                                                   | 2,4                                                                                   |
| Operation           |             |  |  |  |  |                                                                                       |
|                     |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |  |
|                     |             |  |  |  |  |  |
| SMG                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| N1                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |
| N2                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     |                                                                                       |
| N3                  |             |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                     |                                                                                       |
| N11                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       | ●                                                                                     |
| TS1                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     |                                                                                       |
| TP1                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     |                                                                                       |

■ Stock standard □ Weldon available, delivery time is 3 days. □ Safe-Lock available, delivery time is 6 days  
 ● Preferred choice ○ Alternative choice

#### Tool selection Non ferrous

|                     |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                     |
|---------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                     |             |    |    |    |    |    |  |
| Name                |             | HP4931                                                                              | S4931                                                                               | JH40                                                                                | JH421                                                                                 | JH410                                                                                 | JH440                                                                               |
| Page(s)             |             | 466                                                                                 | 470                                                                                 | 474                                                                                 | 477                                                                                   | 481                                                                                   | 483                                                                                 |
| Family name         |             | HPM                                                                                 | Solid <sup>2</sup>                                                                  | HSM/TORNADO                                                                         | HSM/TORNADO                                                                           | HSM/TORNADO                                                                           | HSM/TORNADO                                                                         |
| Type of mill        |             |    |    |    |    |    |  |
| Shank               | Cylindrical | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                     | ■                                                                                     | ■                                                                                   |
|                     | Weldon      |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                     |
|                     | Safelock    |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                     |
| Number of Flutes    |             | 3                                                                                   | 3                                                                                   | 2                                                                                   | 2-3                                                                                   | 1                                                                                     | 2                                                                                   |
| CSP                 |             | ■                                                                                   | ■                                                                                   |                                                                                     | ■                                                                                     |                                                                                       |                                                                                     |
| Diameter range      | Metric      | 12-25                                                                               | 6-25                                                                                | 2-20                                                                                | 2-25                                                                                  | 2-17                                                                                  | 6-8                                                                                 |
|                     | Inch        | 1/2-1                                                                               | 1/4-5/8                                                                             |                                                                                     |                                                                                       |                                                                                       |                                                                                     |
| Length availability |             | 2,3,4                                                                               | 3,4,5                                                                               | 1,2                                                                                 | 2,3                                                                                   | 2,3                                                                                   | 2                                                                                   |
| Operation           |             |  |  |  |  |  |                                                                                     |
|                     |             |  |  |                                                                                     |                                                                                       |                                                                                       |                                                                                     |
|                     |             |  |  |  |  |  |                                                                                     |
| SMG                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                     |
| N1                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                   |
| N2                  |             | ●                                                                                   | ●                                                                                   |                                                                                     |                                                                                       |                                                                                       | ●                                                                                   |
| N3                  |             | ●                                                                                   | ●                                                                                   |                                                                                     |                                                                                       |                                                                                       | ●                                                                                   |
| N11                 |             |                                                                                     |                                                                                     | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                   |
| TS1                 |             |                                                                                     |                                                                                     | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                   |
| TP1                 |             |                                                                                     |                                                                                     |                                                                                     | ●                                                                                     |                                                                                       | ●                                                                                   |

■ Stock standard □ Weldon available, delivery time is 3 days.  
 ● Preferred choice ○ Alternative choice

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Tool selection Non ferrous

|                     |             |    |    |    |    |    |    |
|---------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Name                |             | S4321                                                                               | JH450                                                                               | JH460                                                                               | SMB413/414/416                                                                       | JM403/404/406                                                                         | JM413/416                                                                             |
| Page(s)             |             | 485                                                                                 | 488                                                                                 | 490                                                                                 | 496                                                                                  | 494                                                                                   | 496                                                                                   |
| Family name         |             | SOLID <sup>2</sup>                                                                  | HSM/TORNADO                                                                         | HSM/TORNADO                                                                         | MINI                                                                                 | MINI                                                                                  | MINI                                                                                  |
| Type of mill        |             |    |    |    |    |    |    |
| Shank               | Cylindrical |    |    |    |    |    |    |
|                     | Weldon      |    |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
|                     | Safelock    |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| Number of Flutes    |             | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                    | 1                                                                                     | 2                                                                                     |
| CSP                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| Diameter range      | Metric      | 2-20                                                                                | 2-20                                                                                | 3-12                                                                                | 1-3                                                                                  | 0,5-2                                                                                 | 0,5-2                                                                                 |
|                     | Inch        |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| Length availability |             | 2                                                                                   | 2,3                                                                                 | 2                                                                                   | 2,3,5                                                                                | 1,2,5                                                                                 | 2,3,5                                                                                 |
| Operation           |             |                                                                                     |                                                                                     |                                                                                     |  |  |                                                                                       |
|                     |             |                                                                                     |                                                                                     |                                                                                     |  |  |                                                                                       |
|                     |             |  |  |  |  |                                                                                       |  |
| SMG                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| N1                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| N2                  |             | ●                                                                                   | ●                                                                                   |                                                                                     | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| N3                  |             | ●                                                                                   | ●                                                                                   |                                                                                     | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| N11                 |             |                                                                                     | ●                                                                                   | ●                                                                                   |                                                                                      |                                                                                       | ●                                                                                     |
| TS1                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    |                                                                                       | ●                                                                                     |
| TP1                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    |                                                                                       | ●                                                                                     |

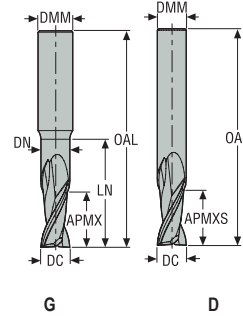
■ Stock standard □ Weldon available, delivery time is 3 days.

● Preferred choice ○ Alternative choice

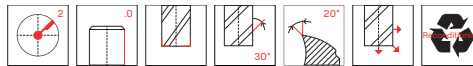


## JS412

General purpose – Aluminium – Square – 2 Flutes – Cylindrical – Sharp



- Tolerances:
- DMM= h5
- DC= e8
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation     | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN  | PCEDC | Shank       | Stock standard |
|-----------------|-------------|--------------|------------|------|------|-------|-------|------|-----|-------|-------------|----------------|
| JS412020G2SZ2.0 | 02881760    | 2            | G          | mm   | mm   | mm    | mm    | mm   | mm  |       |             |                |
| JS412030G2SZ2.0 | 02881761    | 2            | G          | 2,0  | 6,0  | 4,0   | 57,0  | 7,0  | 1,9 | 2     | Cylindrical | ■              |
| JS412040G2SZ2.0 | 02881762    | 2            | G          | 3,0  | 6,0  | 6,0   | 57,0  | 10,0 | 2,8 | 2     | Cylindrical | ■              |
| JS412050G2SZ2.0 | 02881763    | 2            | G          | 4,0  | 6,0  | 8,0   | 57,0  | 14,0 | 3,8 | 2     | Cylindrical | ■              |
| JS412060D2SZ2.0 | 02881764    | 2            | D          | 5,0  | 6,0  | 10,0  | 57,0  | 17,0 | 4,7 | 2     | Cylindrical | ■              |
| JS412080D2SZ2.0 | 02881765    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | —    | —   | 2     | Cylindrical | ■              |
| JS412100D2SZ2.0 | 02881766    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | —    | —   | 2     | Cylindrical | ■              |
| JS412120D2SZ2.0 | 02881767    | 2            | D          | 10,0 | 10,0 | 20,0  | 75,0  | —    | —   | 2     | Cylindrical | ■              |
| JS412160D2SZ2.0 | 02881769    | 2            | D          | 12,0 | 12,0 | 24,0  | 88,0  | —    | —   | 2     | Cylindrical | ■              |
| JS412200D2SZ2.0 | 02881770    | 2            | D          | 16,0 | 16,0 | 32,0  | 100,0 | —    | —   | 2     | Cylindrical | ■              |
| JS412200D2SZ2.0 | 02881770    | 2            | D          | 20,0 | 20,0 | 40,0  | 124,0 | —    | —   | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

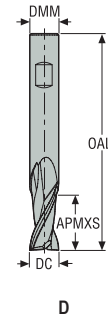
Graphite

X-Heads

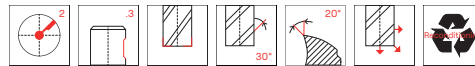
Minimaster

## JS412

General purpose – Aluminium – Square – 2 Flutes – Weldon – Sharp



—Tolerances:  
—DMM= h5  
—DC= e8  
—Regrind possible



| Designation     | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | PCEDC | Shank  | Stock standard |
|-----------------|-------------|--------------|------------|------|------|-------|-------|-------|--------|----------------|
| JS412060D2SZ2.3 | 02881771    | 2            | D          | mm   | mm   | mm    | mm    |       |        |                |
| JS412080D2SZ2.3 | 02881772    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | 2     | Weldon | ■              |
| JS412100D2SZ2.3 | 02881773    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | 2     | Weldon | ■              |
| JS412120D2SZ2.3 | 02881774    | 2            | D          | 10,0 | 10,0 | 20,0  | 75,0  | 2     | Weldon | ■              |
| JS412160D2SZ2.3 | 02881776    | 2            | D          | 12,0 | 12,0 | 24,0  | 88,0  | 2     | Weldon | ■              |
| JS412160D2SZ2.3 | 02881776    | 2            | D          | 16,0 | 16,0 | 32,0  | 100,0 | 2     | Weldon | ■              |
| JS412200D2SZ2.3 | 02881777    | 2            | D          | 20,0 | 20,0 | 40,0  | 124,0 | 2     | Weldon | ■              |

■ Stocked standard.

## Cutting data – JS412 Side milling

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$            |                 |                 |                 |                 |                 |                |                |                |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|----------------|------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                |            | 2                | 3               | 4               | 5               | 6               | 8               | 10             | 12             | 16             | 20             |                                       |
| N1  | E/M/A                                                                             | 0.400<br>0,400 | 1.5<br>1,5 | 0.026<br>0,0010  | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.19<br>0,0075 | 0.22<br>0,0085 | 590 (470 — 700)<br>1925 (1600 — 2200) |
| N2  | E/M/A                                                                             | 0.300<br>0,300 | 1.4<br>1,4 | 0.026<br>0,0010  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050 | 0.16<br>0,0065 | 0.19<br>0,0075 | 0.22<br>0,0085 | 475 (360 — 590)<br>1550 (1200 — 1900) |
| TS1 | A/D                                                                               | 0.400<br>0,400 | 1.5<br>1,5 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.20<br>0,0080 | 600 (480 — 710)<br>1975 (1600 — 2300) |
| TP1 | A/D                                                                               | 0.400<br>0,400 | 1.5<br>1,5 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.20<br>0,0080 | 500 (380 — 630)<br>1650 (1300 — 2000) |

Universal

Steel and cast iron

## Cutting data – JS412 Slot milling

| SMG |  | $a_p/DC$   | $f_z$            |                  |                 |                 |                 |                 |                 |                 |                |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |            | 2                | 3                | 4               | 5               | 6               | 8               | 10              | 12              | 16             | 20             |                                       |
| N1  | E                                                                                 | 1.2<br>1,2 | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.16<br>0,0065 | 0.20<br>0,0080 | 500 (410 — 590)<br>1650 (1400 — 1900) |
| N2  | E                                                                                 | 1.0<br>1,0 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.13<br>0,0050 | 0.16<br>0,0065 | 400 (310 — 500)<br>1300 (1100 — 1600) |
| TS1 | A                                                                                 | 1.2<br>1,2 | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.16<br>0,0065 | 0.20<br>0,0080 | 500 (410 — 590)<br>1650 (1400 — 1900) |
| TP1 | A                                                                                 | 1.2<br>1,2 | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.16<br>0,0065 | 0.20<br>0,0080 | 420 (320 — 520)<br>1375 (1100 — 1700) |

Stainless steel and S-materials

Non ferrous

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Hard

Plastic and cfrp

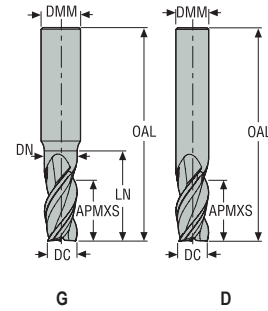
Graphite

X-Heads

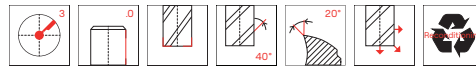
Minimaster

## JS413

General purpose – Aluminium – Square – 3 Flutes – Cylindrical – Sharp



—Tolerances:  
—DMM= h5  
—DC= e8  
—Regrind possible if DC is  $\geq \varnothing 6$

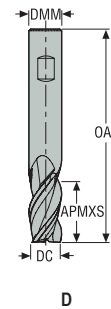


| Designation     | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN  | PCEDC | Shank       | Stock standard |
|-----------------|-------------|--------------|------------|------|------|-------|-------|------|-----|-------|-------------|----------------|
| JS413020G2SZ3.0 | 02881797    | 2            | G          | mm   | mm   | mm    | mm    | mm   | mm  |       |             |                |
| JS413030G2SZ3.0 | 02881798    | 2            | G          | 2,0  | 6,0  | 4,0   | 57,0  | 7,0  | 1,9 | 3     | Cylindrical | ■              |
| JS413040G2SZ3.0 | 02881799    | 2            | G          | 3,0  | 6,0  | 6,0   | 57,0  | 10,0 | 2,8 | 3     | Cylindrical | ■              |
| JS413050G2SZ3.0 | 02881800    | 2            | G          | 4,0  | 6,0  | 8,0   | 57,0  | 14,0 | 3,8 | 3     | Cylindrical | ■              |
| JS413060D2SZ3.0 | 02881801    | 2            | D          | 5,0  | 6,0  | 10,0  | 57,0  | 17,0 | 4,7 | 3     | Cylindrical | ■              |
| JS413080D2SZ3.0 | 02881802    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | —    | —   | 3     | Cylindrical | ■              |
| JS413100D2SZ3.0 | 02881803    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | —    | —   | 3     | Cylindrical | ■              |
| JS413120D2SZ3.0 | 02881804    | 2            | D          | 10,0 | 10,0 | 20,0  | 72,0  | —    | —   | 3     | Cylindrical | ■              |
| JS413160D2SZ3.0 | 02881806    | 2            | D          | 12,0 | 12,0 | 24,0  | 88,0  | —    | —   | 3     | Cylindrical | ■              |
| JS413200D2SZ3.0 | 02881807    | 2            | D          | 16,0 | 16,0 | 32,0  | 100,0 | —    | —   | 3     | Cylindrical | ■              |
| JS413200D2SZ3.0 | 02881807    | 2            | D          | 20,0 | 20,0 | 40,0  | 124,0 | —    | —   | 3     | Cylindrical | ■              |
| JS413060D3SZ3.0 | 02881815    | 3            | D          | 6,0  | 6,0  | 24,0  | 70,0  | —    | —   | 3     | Cylindrical | ■              |
| JS413080D3SZ3.0 | 02881816    | 3            | D          | 8,0  | 8,0  | 32,0  | 85,0  | —    | —   | 3     | Cylindrical | ■              |
| JS413100D3SZ3.0 | 02881817    | 3            | D          | 10,0 | 10,0 | 40,0  | 100,0 | —    | —   | 3     | Cylindrical | ■              |
| JS413120D3SZ3.0 | 02881818    | 3            | D          | 12,0 | 12,0 | 50,0  | 115,0 | —    | —   | 3     | Cylindrical | ■              |
| JS413160D3SZ3.0 | 02881820    | 3            | D          | 16,0 | 16,0 | 55,0  | 125,0 | —    | —   | 3     | Cylindrical | ■              |
| JS413200D3SZ3.0 | 02881821    | 3            | D          | 20,0 | 20,0 | 75,0  | 150,0 | —    | —   | 3     | Cylindrical | ■              |

■ Stocked standard.

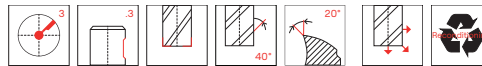
## JS413

General purpose – Aluminium – Square – 3 Flutes – Weldon – Sharp



D

- Tolerances:
- DMM= h5
- DC= e8
- Regrind possible



| Designation     | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | PCEDC | Shank  | Stock standard |
|-----------------|-------------|--------------|------------|------|------|-------|-------|-------|--------|----------------|
| JS413060D2SZ3.3 | 02881808    | 2            | D          | mm   | mm   | mm    | mm    | 3     | Weldon | ■              |
| JS413080D2SZ3.3 | 02881809    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | 3     | Weldon | ■              |
| JS413100D2SZ3.3 | 02881810    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | 3     | Weldon | ■              |
| JS413120D2SZ3.3 | 02881811    | 2            | D          | 10,0 | 10,0 | 20,0  | 72,0  | 3     | Weldon | ■              |
| JS413160D2SZ3.3 | 02881813    | 2            | D          | 12,0 | 12,0 | 24,0  | 88,0  | 3     | Weldon | ■              |
| JS413200D2SZ3.3 | 02881814    | 2            | D          | 16,0 | 16,0 | 32,0  | 100,0 | 3     | Weldon | ■              |
| JS413200D3SZ3.3 | 02881814    | 2            | D          | 20,0 | 20,0 | 40,0  | 124,0 | 3     | Weldon | ■              |
| JS413060D3SZ3.3 | 02881955    | 3            | D          | 6,0  | 6,0  | 24,0  | 70,0  | 3     | Weldon | □              |
| JS413080D3SZ3.3 | 02881956    | 3            | D          | 8,0  | 8,0  | 32,0  | 85,0  | 3     | Weldon | □              |
| JS413100D3SZ3.3 | 02881957    | 3            | D          | 10,0 | 10,0 | 40,0  | 100,0 | 3     | Weldon | □              |
| JS413120D3SZ3.3 | 02881958    | 3            | D          | 12,0 | 12,0 | 50,0  | 115,0 | 3     | Weldon | □              |
| JS413160D3SZ3.3 | 02881960    | 3            | D          | 16,0 | 16,0 | 55,0  | 125,0 | 3     | Weldon | ■              |
| JS413200D3SZ3.3 | 02881961    | 3            | D          | 20,0 | 20,0 | 75,0  | 150,0 | 3     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JS413 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>   |                 |                 |                 |                 |                 |                |                |                |                | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                    |                    | 2                | 3               | 4               | 5               | 6               | 8               | 10             | 12             | 16             | 20             |                                       |
| N1  | E/M/A                                                                             | 0.400<br>0,400     | 1.5<br>1,5         | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.20<br>0,0080 | 600 (480 — 710)<br>1975 (1600 — 2300) |
| N2  | E/M/A                                                                             | 0.300<br>0,300     | 1.5<br>1,5         | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.20<br>0,0080 | 470 (360 — 580)<br>1550 (1200 — 1900) |
| N3  | E/M/A                                                                             | 0.300<br>0,300     | 1.5<br>1,5         | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.18<br>0,0070 | 0.20<br>0,0080 | 315 (240 — 390)<br>1025 (790 — 1200)  |
| TS1 | A/D                                                                               | 0.400<br>0,400     | 1.5<br>1,5         | 0.022<br>0,00085 | 0.034<br>0,0013 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.090<br>0,0036 | 0.11<br>0,0044 | 0.13<br>0,0050 | 0.17<br>0,0065 | 0.19<br>0,0075 | 610 (500 — 730)<br>2000 (1700 — 2300) |
| TP1 | A/D                                                                               | 0.400<br>0,400     | 1.5<br>1,5         | 0.022<br>0,00085 | 0.034<br>0,0013 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.090<br>0,0036 | 0.11<br>0,0044 | 0.13<br>0,0050 | 0.17<br>0,0065 | 0.19<br>0,0075 | 330 (250 — 410)<br>1075 (830 — 1300)  |

## Cutting data – JS413 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>   |                  |                 |                 |                 |                 |                 |                 |                |                | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                    | 2                | 3                | 4               | 5               | 6               | 8               | 10              | 12              | 16             | 20             |                                       |
| N1  | E                                                                                 | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.16<br>0,0065 | 0.20<br>0,0080 | 500 (400 — 600)<br>1650 (1400 — 1900) |
| N2  | E                                                                                 | 1.0<br>1,0         | 0.014<br>0,00055 | 0.022<br>0,00085 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.11<br>0,0044 | 0.14<br>0,0055 | 400 (300 — 490)<br>1300 (990 — 1600)  |
| N3  | E                                                                                 | 1.0<br>1,0         | 0.014<br>0,00055 | 0.022<br>0,00085 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.11<br>0,0044 | 0.14<br>0,0055 | 265 (200 — 330)<br>870 (660 — 1000)   |
| TS1 | A                                                                                 | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.16<br>0,0065 | 0.19<br>0,0075 | 500 (400 — 600)<br>1650 (1400 — 1900) |
| TP1 | A                                                                                 | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012  | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.16<br>0,0065 | 0.19<br>0,0075 | 270 (210 — 330)<br>890 (690 — 1000)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

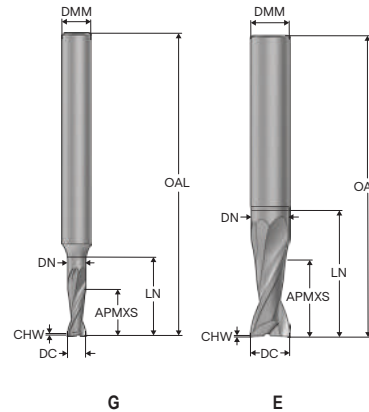
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

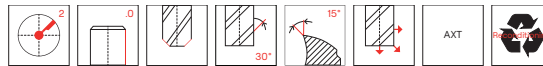
All cutting data are target values

## S4521

High performance – Aluminium – Square – 2 Flutes – Cylindrical – Chamfer



- Tolerances:
- DMM=h5
- DC= e7
- CHW= +0,04 mm
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
|                  |       |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |             |                |
| S4521-020G2C.0Z2 | AXT   | 10228022    | 2            | G          | 2,0  | 6,0  | 4,0   | 57,0  | 8,0  | 1,9  | 0,1 | 2     | Cylindrical | ■              |
| S4521-030G2C.0Z2 | AXT   | 10228023    | 2            | G          | 3,0  | 6,0  | 6,0   | 57,0  | 10,0 | 2,85 | 0,1 | 2     | Cylindrical | ■              |
| S4521-040G2C.0Z2 | AXT   | 10228024    | 2            | G          | 4,0  | 6,0  | 8,0   | 57,0  | 14,0 | 3,8  | 0,1 | 2     | Cylindrical | ■              |
| S4521-050G2C.0Z2 | AXT   | 10228025    | 2            | G          | 5,0  | 6,0  | 10,0  | 57,0  | 17,0 | 4,75 | 0,1 | 2     | Cylindrical | ■              |
| S4521-060E2C.0Z2 | AXT   | 10228026    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 19,0 | 5,7  | 0,1 | 2     | Cylindrical | ■              |
| S4521-080E2C.0Z2 | AXT   | 10228029    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 24,0 | 7,6  | 0,1 | 2     | Cylindrical | ■              |
| S4521-100E2C.0Z2 | AXT   | 10228033    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0 | 9,5  | 0,1 | 2     | Cylindrical | ■              |
| S4521-120E2C.0Z2 | AXT   | 10228037    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0 | 11,4 | 0,1 | 2     | Cylindrical | ■              |
| S4521-140E2C.0Z2 | AXT   | 10228043    | 2            | E          | 14,0 | 14,0 | 28,0  | 89,0  | 41,0 | 13,3 | 0,1 | 2     | Cylindrical | ■              |
| S4521-160E2C.0Z2 | AXT   | 10228044    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0 | 15,2 | 0,1 | 2     | Cylindrical | ■              |
| S4521-200E2C.0Z2 | AXT   | 10228051    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 0,1 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

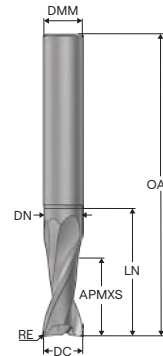
Graphite

X-Heads

Minimaster

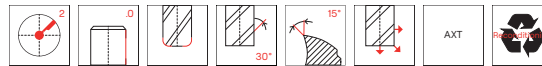
## S4521

High performance – Aluminium – Square – 2 Flutes – Cylindrical – Corner radius



E

- Tolerances:
- DMM=h5
- DC= e7
- RE= ±0,02 mm
- Regrind possible if DC is ≥Ø6



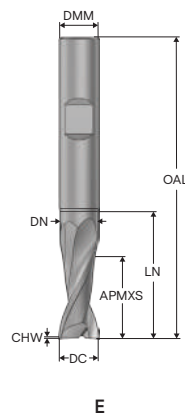
| Designation         | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN    | DN   | RE  | PCEDC | Shank       | Stock standard |
|---------------------|-------|-------------|--------------|------------|------|------|-------|-------|-------|------|-----|-------|-------------|----------------|
| S4521-060E2R050.0Z2 | AXT   | 10228027    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 19,0  | 5,7  | 0,5 | 2     | Cylindrical | ■              |
| S4521-060E2R100.0Z2 | AXT   | 10228028    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 19,0  | 5,7  | 1,0 | 2     | Cylindrical | ■              |
| S4521-080E2R050.0Z2 | AXT   | 10228030    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 24,0  | 7,6  | 0,5 | 2     | Cylindrical | ■              |
| S4521-080E2R100.0Z2 | AXT   | 10228031    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 24,0  | 7,6  | 1,0 | 2     | Cylindrical | ■              |
| S4521-100E2R050.0Z2 | AXT   | 10228034    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0  | 9,5  | 0,5 | 2     | Cylindrical | ■              |
| S4521-100E2R100.0Z2 | AXT   | 10228035    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0  | 9,5  | 1,0 | 2     | Cylindrical | ■              |
| S4521-120E2R050.0Z2 | AXT   | 10228038    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0  | 11,4 | 0,5 | 2     | Cylindrical | ■              |
| S4521-120E2R100.0Z2 | AXT   | 10228039    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0  | 11,4 | 1,0 | 2     | Cylindrical | ■              |
| S4521-120E2R200.0Z2 | AXT   | 10228040    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0  | 11,4 | 2,0 | 2     | Cylindrical | ■              |
| S4521-120E2R300.0Z2 | AXT   | 10228041    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0  | 11,4 | 3,0 | 2     | Cylindrical | ■              |
| S4521-160E2R050.0Z2 | AXT   | 10228045    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0  | 15,2 | 0,5 | 2     | Cylindrical | ■              |
| S4521-160E2R100.0Z2 | AXT   | 10228046    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0  | 15,2 | 1,0 | 2     | Cylindrical | ■              |
| S4521-160E2R200.0Z2 | AXT   | 10228047    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0  | 15,2 | 2,0 | 2     | Cylindrical | ■              |
| S4521-160E2R300.0Z2 | AXT   | 10228048    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0  | 15,2 | 3,0 | 2     | Cylindrical | ■              |
| S4521-160E2R400.0Z2 | AXT   | 10228049    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0  | 15,2 | 4,0 | 2     | Cylindrical | ■              |
| S4521-200E2R050.0Z2 | AXT   | 10228052    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0  | 19,0 | 0,5 | 2     | Cylindrical | ■              |
| S4521-200E2R100.0Z2 | AXT   | 10228053    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0  | 19,0 | 1,0 | 2     | Cylindrical | ■              |
| S4521-200E2R200.0Z2 | AXT   | 10228054    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0  | 19,0 | 2,0 | 2     | Cylindrical | ■              |
| S4521-200E2R300.0Z2 | AXT   | 10228055    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0  | 19,0 | 3,0 | 2     | Cylindrical | ■              |
| S4521-200E2R400.0Z2 | AXT   | 10228056    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0  | 19,0 | 4,0 | 2     | Cylindrical | ■              |
| S4521-080E3R020.0Z2 | AXT   | 10228032    | 3            | E          | 8,0  | 8,0  | 12,0  | 79,0  | 41,0  | 7,6  | 0,2 | 2     | Cylindrical | ■              |
| S4521-100E3R050.0Z2 | AXT   | 10228036    | 3            | E          | 10,0 | 10,0 | 15,0  | 99,0  | 57,0  | 9,5  | 0,5 | 2     | Cylindrical | ■              |
| S4521-120E3R050.0Z2 | AXT   | 10228042    | 3            | E          | 12,0 | 12,0 | 18,0  | 119,0 | 72,0  | 11,4 | 0,5 | 2     | Cylindrical | ■              |
| S4521-160E3R050.0Z2 | AXT   | 10228050    | 3            | E          | 16,0 | 16,0 | 24,0  | 129,0 | 79,0  | 15,2 | 0,5 | 2     | Cylindrical | ■              |
| S4521-200E3R050.0Z2 | AXT   | 10228057    | 3            | E          | 20,0 | 20,0 | 30,0  | 164,0 | 111,0 | 19,0 | 0,5 | 2     | Cylindrical | ■              |

■ Stocked standard.

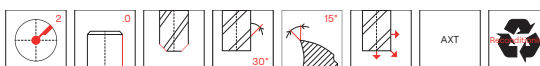


S4521

High performance – Aluminium – Square – 2 Flutes – Weldon – Chamfer



- Tolerances:
- DMM=h5
- DC= e7
- CHW= +0,04 mm
- Regrind possible if DC is  $\geq 06$



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW | PCEDC | Shank  | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|--------|----------------|
|                  |       |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |        |                |
| S4521-060E2C.3Z2 | AXT   | 10286908    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 19,0 | 5,7  | 0,1 | 2     | Weldon | □              |
| S4521-080E2C.3Z2 | AXT   | 10286911    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 24,0 | 7,6  | 0,1 | 2     | Weldon | □              |
| S4521-100E2C.3Z2 | AXT   | 10286915    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0 | 9,5  | 0,1 | 2     | Weldon | □              |
| S4521-120E2C.3Z2 | AXT   | 10286919    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0 | 11,4 | 0,1 | 2     | Weldon | □              |
| S4521-140E2C.3Z2 | AXT   | 10286925    | 2            | E          | 14,0 | 14,0 | 28,0  | 89,0  | 41,0 | 13,3 | 0,1 | 2     | Weldon | □              |
| S4521-160E2C.3Z2 | AXT   | 10286926    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0 | 15,2 | 0,1 | 2     | Weldon | □              |
| S4521-200E2C.3Z2 | AXT   | 10286933    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 0,1 | 2     | Weldon | □              |

☐ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

## Stainless steel and S-materials

## Non ferrous

Hard

## Plastic and cfrp

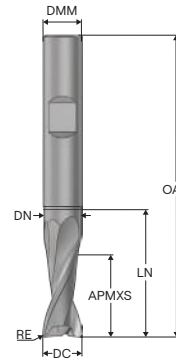
Graphite

## X-Heads

Minimaster

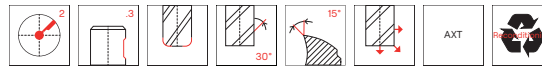
## S4521

High performance – Aluminium – Square – 2 Flutes – Weldon – Corner radius



E

- Tolerances:  
—DMM=h5  
—DC= e7  
—RE= ±0,02 mm  
—Regrind possible if DC is ≥Ø6



| Designation         | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN    | DN   | RE  | PCEDC | Shank  | Stock standard           |
|---------------------|-------|-------------|--------------|------------|------|------|-------|-------|-------|------|-----|-------|--------|--------------------------|
|                     |       |             |              |            | mm   | mm   | mm    | mm    | mm    | mm   | mm  |       |        |                          |
| S4521-060E2R050.3Z2 | AXT   | 10286909    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 19,0  | 5,7  | 0,5 | 2     | Weldon | <input type="checkbox"/> |
| S4521-060E2R100.3Z2 | AXT   | 10286910    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 19,0  | 5,7  | 1,0 | 2     | Weldon | <input type="checkbox"/> |
| S4521-080E3R020.3Z2 | AXT   | 10286914    | 2            | E          | 8,0  | 8,0  | 12,0  | 79,0  | 41,0  | 7,6  | 0,2 | 2     | Weldon | <input type="checkbox"/> |
| S4521-080E2R050.3Z2 | AXT   | 10286912    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 24,0  | 7,6  | 0,5 | 2     | Weldon | <input type="checkbox"/> |
| S4521-080E2R100.3Z2 | AXT   | 10286913    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 24,0  | 7,6  | 1,0 | 2     | Weldon | <input type="checkbox"/> |
| S4521-100E2R050.3Z2 | AXT   | 10286916    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0  | 9,5  | 0,5 | 2     | Weldon | <input type="checkbox"/> |
| S4521-100E3R050.3Z2 | AXT   | 10286918    | 2            | E          | 10,0 | 10,0 | 15,0  | 99,0  | 57,0  | 9,5  | 0,5 | 2     | Weldon | <input type="checkbox"/> |
| S4521-100E2R100.3Z2 | AXT   | 10286917    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0  | 9,5  | 1,0 | 2     | Weldon | <input type="checkbox"/> |
| S4521-120E2R050.3Z2 | AXT   | 10286920    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0  | 11,4 | 0,5 | 2     | Weldon | <input type="checkbox"/> |
| S4521-120E2R100.3Z2 | AXT   | 10286921    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0  | 11,4 | 1,0 | 2     | Weldon | <input type="checkbox"/> |
| S4521-120E2R200.3Z2 | AXT   | 10286922    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0  | 11,4 | 2,0 | 2     | Weldon | <input type="checkbox"/> |
| S4521-120E2R300.3Z2 | AXT   | 10286923    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0  | 11,4 | 3,0 | 2     | Weldon | <input type="checkbox"/> |
| S4521-160E2R050.3Z2 | AXT   | 10286927    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0  | 15,2 | 0,5 | 2     | Weldon | <input type="checkbox"/> |
| S4521-160E2R100.3Z2 | AXT   | 10286928    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0  | 15,2 | 1,0 | 2     | Weldon | <input type="checkbox"/> |
| S4521-160E2R200.3Z2 | AXT   | 10286929    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0  | 15,2 | 2,0 | 2     | Weldon | <input type="checkbox"/> |
| S4521-160E2R300.3Z2 | AXT   | 10286930    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0  | 15,2 | 3,0 | 2     | Weldon | <input type="checkbox"/> |
| S4521-160E2R400.3Z2 | AXT   | 10286931    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0  | 15,2 | 4,0 | 2     | Weldon | <input type="checkbox"/> |
| S4521-200E2R050.3Z2 | AXT   | 10286934    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0  | 19,0 | 0,5 | 2     | Weldon | <input type="checkbox"/> |
| S4521-200E2R100.3Z2 | AXT   | 10286935    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0  | 19,0 | 1,0 | 2     | Weldon | <input type="checkbox"/> |
| S4521-200E2R200.3Z2 | AXT   | 10286936    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0  | 19,0 | 2,0 | 2     | Weldon | <input type="checkbox"/> |
| S4521-200E2R300.3Z2 | AXT   | 10286937    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0  | 19,0 | 3,0 | 2     | Weldon | <input type="checkbox"/> |
| S4521-200E2R400.3Z2 | AXT   | 10286938    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0  | 19,0 | 4,0 | 2     | Weldon | <input type="checkbox"/> |
| S4521-120E3R050.3Z2 | AXT   | 10286924    | 3            | E          | 12,0 | 12,0 | 18,0  | 119,0 | 72,0  | 11,4 | 0,5 | 2     | Weldon | <input type="checkbox"/> |
| S4521-160E3R050.3Z2 | AXT   | 10286932    | 3            | E          | 16,0 | 16,0 | 24,0  | 129,0 | 79,0  | 15,2 | 0,5 | 2     | Weldon | <input type="checkbox"/> |
| S4521-200E3R050.3Z2 | AXT   | 10286939    | 3            | E          | 20,0 | 20,0 | 30,0  | 164,0 | 111,0 | 19,0 | 0,5 | 2     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

### Cutting data – S4521 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |        |        |        |        |        |        |        |        |        |        |                    | v <sub>c</sub> |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|----------------|
|     |                                                                                   |                    |                    | 2              | 3      | 4      | 5      | 6      | 8      | 10     | 12     | 14     | 16     | 20     |                    |                |
| N1  | E/M/A                                                                             | 0,40               | 1,5                | 0,030          | 0,046  | 0,060  | 0,075  | 0,090  | 0,12   | 0,15   | 0,18   | 0,20   | 0,22   | 0,25   | 560 (450 — 660)    |                |
|     |                                                                                   | 0,40               | 1,5                | 0,0012         | 0,0018 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 0,0080 | 0,0085 | 0,010  | 1825 (1500 — 2100) |                |
| N2  | E/M/A                                                                             | 0,30               | 1,5                | 0,024          | 0,036  | 0,048  | 0,060  | 0,070  | 0,095  | 0,12   | 0,14   | 0,16   | 0,18   | 0,20   | 480 (370 — 600)    |                |
|     |                                                                                   | 0,30               | 1,5                | 0,00095        | 0,0014 | 0,0019 | 0,0024 | 0,0028 | 0,0038 | 0,0048 | 0,0055 | 0,0065 | 0,0070 | 0,0080 | 1575 (1300 — 1900) |                |
| N3  | E/M/A                                                                             | 0,30               | 1,5                | 0,024          | 0,036  | 0,048  | 0,060  | 0,070  | 0,095  | 0,12   | 0,14   | 0,16   | 0,18   | 0,20   | 320 (250 — 400)    |                |
|     |                                                                                   | 0,30               | 1,5                | 0,00095        | 0,0014 | 0,0019 | 0,0024 | 0,0028 | 0,0038 | 0,0048 | 0,0055 | 0,0065 | 0,0070 | 0,0080 | 1050 (830 — 1300)  |                |
| TS1 | A/D                                                                               | 0,40               | 1,5                | 0,030          | 0,046  | 0,060  | 0,075  | 0,090  | 0,12   | 0,15   | 0,18   | 0,20   | 0,22   | 0,25   | 560 (450 — 660)    |                |
|     |                                                                                   | 0,40               | 1,5                | 0,0012         | 0,0018 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 0,0080 | 0,0085 | 0,010  | 1825 (1500 — 2100) |                |
| TP1 | A/D                                                                               | 0,40               | 1,5                | 0,030          | 0,046  | 0,060  | 0,075  | 0,090  | 0,12   | 0,15   | 0,18   | 0,20   | 0,22   | 0,25   | 445 (340 — 550)    |                |
|     |                                                                                   | 0,40               | 1,5                | 0,0012         | 0,0018 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 0,0080 | 0,0085 | 0,010  | 1450 (1200 — 1800) |                |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

### Cutting data – S4521 Slot milling

| SMG |  | $a_p/DC$ | $f_z$   |         |        |        |        |        |        |        |        |        |        |                    | $v_c$ |
|-----|-----------------------------------------------------------------------------------|----------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|-------|
|     |                                                                                   |          | 2       | 3       | 4      | 5      | 6      | 8      | 10     | 12     | 14     | 16     | 20     |                    |       |
| N1  | E                                                                                 | 1,5      | 0,020   | 0,030   | 0,040  | 0,050  | 0,060  | 0,080  | 0,10   | 0,12   | 0,14   | 0,16   | 0,20   | 495 (400 — 590)    |       |
|     |                                                                                   | 1.5      | 0.00080 | 0.0012  | 0.0016 | 0.0020 | 0.0024 | 0.0032 | 0.0040 | 0.0048 | 0.0055 | 0.0065 | 0.0080 | 1625 (1400 — 1900) |       |
| N2  | E                                                                                 | 1,2      | 0,016   | 0,024   | 0,032  | 0,040  | 0,048  | 0,065  | 0,080  | 0,095  | 0,11   | 0,13   | 0,16   | 395 (300 — 490)    |       |
|     |                                                                                   | 1.2      | 0.00065 | 0.00095 | 0.0013 | 0.0016 | 0.0019 | 0.0026 | 0.0032 | 0.0038 | 0.0044 | 0.0050 | 0.0065 | 1300 (990 — 1600)  |       |
| N3  | E                                                                                 | 1,2      | 0,016   | 0,024   | 0,032  | 0,040  | 0,048  | 0,065  | 0,080  | 0,095  | 0,11   | 0,13   | 0,16   | 265 (200 — 320)    |       |
|     |                                                                                   | 1.2      | 0.00065 | 0.00095 | 0.0013 | 0.0016 | 0.0019 | 0.0026 | 0.0032 | 0.0038 | 0.0044 | 0.0050 | 0.0065 | 870 (660 — 1000)   |       |
| TS1 | A                                                                                 | 1,5      | 0,020   | 0,030   | 0,040  | 0,050  | 0,060  | 0,080  | 0,10   | 0,12   | 0,14   | 0,16   | 0,20   | 495 (400 — 590)    |       |
|     |                                                                                   | 1.5      | 0.00080 | 0.0012  | 0.0016 | 0.0020 | 0.0024 | 0.0032 | 0.0040 | 0.0048 | 0.0055 | 0.0065 | 0.0080 | 1625 (1400 — 1900) |       |
| TP1 | A                                                                                 | 1,5      | 0,020   | 0,030   | 0,040  | 0,050  | 0,060  | 0,080  | 0,10   | 0,12   | 0,14   | 0,16   | 0,20   | 395 (300 — 490)    |       |
|     |                                                                                   | 1.5      | 0.00080 | 0.0012  | 0.0016 | 0.0020 | 0.0024 | 0.0032 | 0.0040 | 0.0048 | 0.0055 | 0.0065 | 0.0080 | 1300 (990 — 1600)  |       |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
iron

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

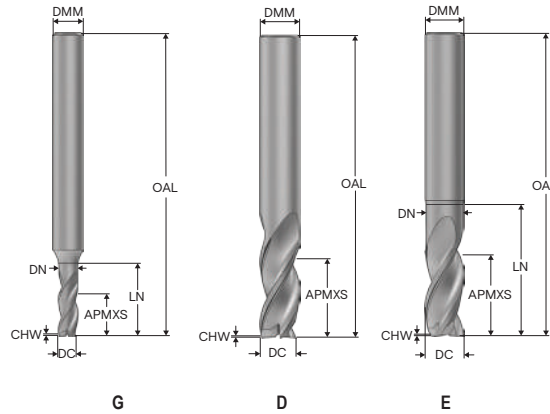
Graphite

X-Heads

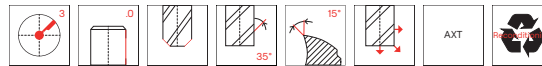
Minimaster

## S4531

High performance – Aluminium – Square – 3 Flutes – Cylindrical – Chamfer



- Tolerances:
- DMM=h5
- DC= e7
- CHW= +0,04 mm
- Regrind possible if DC is  $\geq \phi 6$

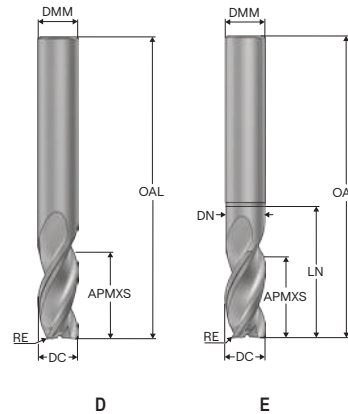


| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
| S4531-020G2C.0Z3 | AXT   | 10228067    | 2            | G          | 2,0  | 6,0  | 4,0   | 57,0  | 7,0  | 1,9  | 0,1 | 3     | Cylindrical | ■              |
| S4531-030G2C.0Z3 | AXT   | 10228068    | 2            | G          | 3,0  | 6,0  | 6,0   | 57,0  | 10,0 | 2,85 | 0,1 | 3     | Cylindrical | ■              |
| S4531-040G2C.0Z3 | AXT   | 10228069    | 2            | G          | 4,0  | 6,0  | 8,0   | 57,0  | 13,0 | 3,8  | 0,1 | 3     | Cylindrical | ■              |
| S4531-050G2C.0Z3 | AXT   | 10228070    | 2            | G          | 5,0  | 6,0  | 10,0  | 57,0  | 15,0 | 4,75 | 0,1 | 3     | Cylindrical | ■              |
| S4531-060D2C.0Z3 | AXT   | 10228071    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | —    | —    | 0,1 | 3     | Cylindrical | ■              |
| S4531-060E2C.0Z3 | AXT   | 10228074    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 19,0 | 5,7  | 0,1 | 3     | Cylindrical | ■              |
| S4531-080D2C.0Z3 | AXT   | 10228077    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | —    | —    | 0,1 | 3     | Cylindrical | ■              |
| S4531-080E2C.0Z3 | AXT   | 10228080    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,1 | 3     | Cylindrical | ■              |
| S4531-100D2C.0Z3 | AXT   | 10228083    | 2            | D          | 10,0 | 10,0 | 20,0  | 72,0  | —    | —    | 0,1 | 3     | Cylindrical | ■              |
| S4531-100E2C.0Z3 | AXT   | 10228087    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0 | 9,5  | 0,1 | 3     | Cylindrical | ■              |
| S4531-120D2C.0Z3 | AXT   | 10228091    | 2            | D          | 12,0 | 12,0 | 24,0  | 88,0  | —    | —    | 0,1 | 3     | Cylindrical | ■              |
| S4531-120E2C.0Z3 | AXT   | 10228096    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0 | 11,4 | 0,1 | 3     | Cylindrical | ■              |
| S4531-140D2C.0Z3 | AXT   | 10228102    | 2            | D          | 14,0 | 14,0 | 28,0  | 89,0  | —    | —    | 0,1 | 3     | Cylindrical | ■              |
| S4531-160D2C.0Z3 | AXT   | 10228103    | 2            | D          | 16,0 | 16,0 | 32,0  | 100,0 | —    | —    | 0,1 | 3     | Cylindrical | ■              |
| S4531-200E2C.0Z3 | AXT   | 10228114    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 0,1 | 3     | Cylindrical | ■              |
| S4531-030G3C.0Z3 | AXT   | 10228058    | 3            | G          | 3,0  | 6,0  | 10,0  | 63,0  | 14,0 | 2,85 | 0,1 | 3     | Cylindrical | ■              |
| S4531-040G3C.0Z3 | AXT   | 10228059    | 3            | G          | 4,0  | 6,0  | 13,0  | 63,0  | 18,0 | 3,8  | 0,1 | 3     | Cylindrical | ■              |
| S4531-050G3C.0Z3 | AXT   | 10228060    | 3            | G          | 5,0  | 6,0  | 16,0  | 63,0  | 20,0 | 4,75 | 0,1 | 3     | Cylindrical | ■              |
| S4531-060D3C.0Z3 | AXT   | 10228061    | 3            | D          | 6,0  | 6,0  | 19,0  | 63,0  | —    | —    | 0,1 | 3     | Cylindrical | ■              |
| S4531-080D3C.0Z3 | AXT   | 10228062    | 3            | D          | 8,0  | 8,0  | 26,0  | 74,0  | —    | —    | 0,1 | 3     | Cylindrical | ■              |
| S4531-100D3C.0Z3 | AXT   | 10228063    | 3            | D          | 10,0 | 10,0 | 32,0  | 84,0  | —    | —    | 0,1 | 3     | Cylindrical | ■              |
| S4531-120D3C.0Z3 | AXT   | 10228064    | 3            | D          | 12,0 | 12,0 | 38,0  | 99,0  | —    | —    | 0,1 | 3     | Cylindrical | ■              |
| S4531-160D3C.0Z3 | AXT   | 10228065    | 3            | D          | 16,0 | 16,0 | 50,0  | 114,0 | —    | —    | 0,1 | 3     | Cylindrical | ■              |
| S4531-200D3C.0Z3 | AXT   | 10228066    | 3            | D          | 20,0 | 20,0 | 62,0  | 150,0 | —    | —    | 0,1 | 3     | Cylindrical | ■              |
| S4531-200E3C.0Z3 | AXT   | 10228120    | 3            | E          | 20,0 | 20,0 | 40,0  | 150,0 | 90,0 | 19,0 | 0,1 | 3     | Cylindrical | ■              |

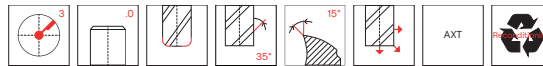
■ Stocked standard.

## S4531

High performance – Aluminium – Square – 3 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM=h5
- DC= e7
- RE=  $\pm 0,02$  mm
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation         | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|---------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
|                     |       |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |             |                |
| S4531-060D2R050.0Z3 | AXT   | 10228072    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | —    | —    | 0,5 | 3     | Cylindrical | ■              |
| S4531-060E2R050.0Z3 | AXT   | 10228075    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 19,0 | 5,7  | 0,5 | 3     | Cylindrical | ■              |
| S4531-060D2R100.0Z3 | AXT   | 10228073    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | —    | —    | 1,0 | 3     | Cylindrical | ■              |
| S4531-060E2R100.0Z3 | AXT   | 10228076    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 19,0 | 5,7  | 1,0 | 3     | Cylindrical | ■              |
| S4531-080D2R050.0Z3 | AXT   | 10228078    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | —    | —    | 0,5 | 3     | Cylindrical | ■              |
| S4531-080E2R050.0Z3 | AXT   | 10228081    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,5 | 3     | Cylindrical | ■              |
| S4531-080D2R100.0Z3 | AXT   | 10228079    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | —    | —    | 1,0 | 3     | Cylindrical | ■              |
| S4531-080E2R100.0Z3 | AXT   | 10228082    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 1,0 | 3     | Cylindrical | ■              |
| S4531-100D2R050.0Z3 | AXT   | 10228084    | 2            | D          | 10,0 | 10,0 | 20,0  | 72,0  | —    | —    | 0,5 | 3     | Cylindrical | ■              |
| S4531-100E2R050.0Z3 | AXT   | 10228088    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0 | 9,5  | 0,5 | 3     | Cylindrical | ■              |
| S4531-100D2R100.0Z3 | AXT   | 10228085    | 2            | D          | 10,0 | 10,0 | 20,0  | 72,0  | —    | —    | 1,0 | 3     | Cylindrical | ■              |
| S4531-100E2R100.0Z3 | AXT   | 10228089    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0 | 9,5  | 1,0 | 3     | Cylindrical | ■              |
| S4531-100D2R200.0Z3 | AXT   | 10228086    | 2            | D          | 10,0 | 10,0 | 20,0  | 72,0  | —    | —    | 2,0 | 3     | Cylindrical | ■              |
| S4531-100E2R200.0Z3 | AXT   | 10228090    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0 | 9,5  | 2,0 | 3     | Cylindrical | ■              |
| S4531-120D2R050.0Z3 | AXT   | 10228092    | 2            | D          | 12,0 | 12,0 | 24,0  | 88,0  | —    | —    | 0,5 | 3     | Cylindrical | ■              |
| S4531-120E2R050.0Z3 | AXT   | 10228097    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0 | 11,4 | 0,5 | 3     | Cylindrical | ■              |
| S4531-120D2R100.0Z3 | AXT   | 10228093    | 2            | D          | 12,0 | 12,0 | 24,0  | 88,0  | —    | —    | 1,0 | 3     | Cylindrical | ■              |
| S4531-120E2R100.0Z3 | AXT   | 10228098    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0 | 11,4 | 1,0 | 3     | Cylindrical | ■              |
| S4531-120D2R200.0Z3 | AXT   | 10228094    | 2            | D          | 12,0 | 12,0 | 24,0  | 88,0  | —    | —    | 2,0 | 3     | Cylindrical | ■              |
| S4531-120E2R200.0Z3 | AXT   | 10228099    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0 | 11,4 | 2,0 | 3     | Cylindrical | ■              |
| S4531-120D2R300.0Z3 | AXT   | 10228095    | 2            | D          | 12,0 | 12,0 | 24,0  | 88,0  | —    | —    | 3,0 | 3     | Cylindrical | ■              |
| S4531-120E2R300.0Z3 | AXT   | 10228100    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0 | 11,4 | 3,0 | 3     | Cylindrical | ■              |
| S4531-160D2R050.0Z3 | AXT   | 10228104    | 2            | D          | 16,0 | 16,0 | 32,0  | 100,0 | —    | —    | 0,5 | 3     | Cylindrical | ■              |
| S4531-160E2R100.0Z3 | AXT   | 10228105    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0 | 15,2 | 1,0 | 3     | Cylindrical | ■              |
| S4531-160E2R200.0Z3 | AXT   | 10228106    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0 | 15,2 | 2,0 | 3     | Cylindrical | ■              |
| S4531-160E2R250.0Z3 | AXT   | 10228107    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0 | 15,2 | 2,5 | 3     | Cylindrical | ■              |
| S4531-160E2R300.0Z3 | AXT   | 10228108    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0 | 15,2 | 3,0 | 3     | Cylindrical | ■              |
| S4531-160E2R400.0Z3 | AXT   | 10228109    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0 | 15,2 | 4,0 | 3     | Cylindrical | ■              |
| S4531-200E2R050.0Z3 | AXT   | 10228115    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 0,5 | 3     | Cylindrical | ■              |
| S4531-200E2R100.0Z3 | AXT   | 10228116    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 1,0 | 3     | Cylindrical | ■              |
| S4531-200E2R200.0Z3 | AXT   | 10228117    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 2,0 | 3     | Cylindrical | ■              |
| S4531-200E2R300.0Z3 | AXT   | 10228118    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 3,0 | 3     | Cylindrical | ■              |
| S4531-200E2R400.0Z3 | AXT   | 10228119    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 4,0 | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

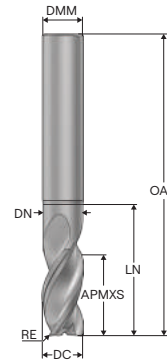
Graphite

X-Heads

Minimaster

## S4531

High performance – Aluminium – Square – 3 Flutes – Cylindrical – Corner radius



E

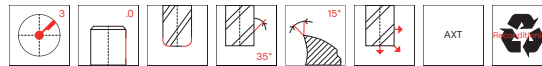
—Tolerances:

—DMM=h5

—DC= e7

—RE= ±0,02 mm

—Regrind possible if DC is ≥Ø6



| Designation         | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|---------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
| S4531-120E3R300.0Z3 | AXT   | 10228101    | 3            | E          | 12,0 | 12,0 | 24,0  | 110,0 | 54,0 | 11,4 | 3,0 | 3     | Cylindrical | ■              |
| S4531-160E3R100.0Z3 | AXT   | 10228110    | 3            | E          | 16,0 | 16,0 | 32,0  | 129,0 | 77,0 | 15,2 | 1,0 | 3     | Cylindrical | ■              |
| S4531-160E3R200.0Z3 | AXT   | 10228111    | 3            | E          | 16,0 | 16,0 | 32,0  | 129,0 | 77,0 | 15,2 | 2,0 | 3     | Cylindrical | ■              |
| S4531-160E3R300.0Z3 | AXT   | 10228112    | 3            | E          | 16,0 | 16,0 | 32,0  | 129,0 | 77,0 | 15,2 | 3,0 | 3     | Cylindrical | ■              |
| S4531-160E3R400.0Z3 | AXT   | 10228113    | 3            | E          | 16,0 | 16,0 | 32,0  | 129,0 | 77,0 | 15,2 | 4,0 | 3     | Cylindrical | ■              |
| S4531-200E3R050.0Z3 | AXT   | 10228121    | 3            | E          | 20,0 | 20,0 | 40,0  | 150,0 | 90,0 | 19,0 | 0,5 | 3     | Cylindrical | ■              |
| S4531-200E3R100.0Z3 | AXT   | 10228122    | 3            | E          | 20,0 | 20,0 | 40,0  | 150,0 | 90,0 | 19,0 | 1,0 | 3     | Cylindrical | ■              |
| S4531-200E3R200.0Z3 | AXT   | 10228123    | 3            | E          | 20,0 | 20,0 | 40,0  | 150,0 | 90,0 | 19,0 | 2,0 | 3     | Cylindrical | ■              |
| S4531-200E3R300.0Z3 | AXT   | 10228124    | 3            | E          | 20,0 | 20,0 | 40,0  | 150,0 | 90,0 | 19,0 | 3,0 | 3     | Cylindrical | ■              |
| S4531-200E3R400.0Z3 | AXT   | 10228125    | 3            | E          | 20,0 | 20,0 | 40,0  | 150,0 | 90,0 | 19,0 | 4,0 | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

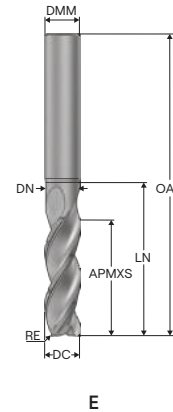
Graphite

X-Heads

Minimaster

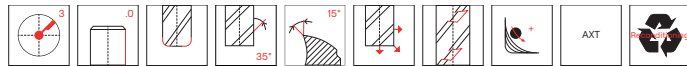
## S4531

High performance – Aluminium – Square – 3 Flutes – Cylindrical – Corner radius



E

- Tolerances:
- DMM=h5
- DC= e7
- RE=  $\pm 0,02$  mm
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation          | Grade | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|----------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
|                      |       |             |              |            |                | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |             |                |
| S4531-060E3R050.0Z3C | AXT   | 10228126    | 3            | E          | ■              | 6,0  | 6,0  | 19,0  | 63,0  | 25,0 | 5,7  | 0,5 | 3     | Cylindrical | ■              |
| S4531-060E3R100.0Z3C | AXT   | 10228127    | 3            | E          | ■              | 6,0  | 6,0  | 19,0  | 63,0  | 25,0 | 5,7  | 1,0 | 3     | Cylindrical | ■              |
| S4531-080E3R050.0Z3C | AXT   | 10228128    | 3            | E          | ■              | 8,0  | 8,0  | 26,0  | 74,0  | 34,0 | 7,6  | 0,5 | 3     | Cylindrical | ■              |
| S4531-080E3R100.0Z3C | AXT   | 10228129    | 3            | E          | ■              | 8,0  | 8,0  | 26,0  | 74,0  | 34,0 | 7,6  | 1,0 | 3     | Cylindrical | ■              |
| S4531-080E3R200.0Z3C | AXT   | 10228130    | 3            | E          | ■              | 8,0  | 8,0  | 26,0  | 74,0  | 34,0 | 7,6  | 2,0 | 3     | Cylindrical | ■              |
| S4531-100E3R050.0Z3C | AXT   | 10228131    | 3            | E          | ■              | 10,0 | 10,0 | 32,0  | 84,0  | 42,0 | 9,5  | 0,5 | 3     | Cylindrical | ■              |
| S4531-100E3R100.0Z3C | AXT   | 10228132    | 3            | E          | ■              | 10,0 | 10,0 | 32,0  | 84,0  | 42,0 | 9,5  | 1,0 | 3     | Cylindrical | ■              |
| S4531-100E3R200.0Z3C | AXT   | 10228133    | 3            | E          | ■              | 10,0 | 10,0 | 32,0  | 84,0  | 42,0 | 9,5  | 2,0 | 3     | Cylindrical | ■              |
| S4531-120E3R050.0Z3C | AXT   | 10228134    | 3            | E          | ■              | 12,0 | 12,0 | 39,0  | 99,0  | 51,0 | 11,4 | 0,5 | 3     | Cylindrical | ■              |
| S4531-120E3R100.0Z3C | AXT   | 10228135    | 3            | E          | ■              | 12,0 | 12,0 | 39,0  | 99,0  | 51,0 | 11,4 | 1,0 | 3     | Cylindrical | ■              |
| S4531-120E3R200.0Z3C | AXT   | 10228136    | 3            | E          | ■              | 12,0 | 12,0 | 39,0  | 99,0  | 51,0 | 11,4 | 2,0 | 3     | Cylindrical | ■              |
| S4531-120E3R300.0Z3C | AXT   | 10228137    | 3            | E          | ■              | 12,0 | 12,0 | 39,0  | 99,0  | 51,0 | 11,4 | 3,0 | 3     | Cylindrical | ■              |
| S4531-160E3R050.0Z3C | AXT   | 10228138    | 3            | E          | ■              | 16,0 | 16,0 | 52,0  | 125,0 | 68,0 | 15,2 | 0,5 | 3     | Cylindrical | ■              |
| S4531-160E3R100.0Z3C | AXT   | 10228139    | 3            | E          | ■              | 16,0 | 16,0 | 52,0  | 125,0 | 68,0 | 15,2 | 1,0 | 3     | Cylindrical | ■              |
| S4531-160E3R200.0Z3C | AXT   | 10228140    | 3            | E          | ■              | 16,0 | 16,0 | 52,0  | 125,0 | 68,0 | 15,2 | 2,0 | 3     | Cylindrical | ■              |
| S4531-160E3R300.0Z3C | AXT   | 10228141    | 3            | E          | ■              | 16,0 | 16,0 | 52,0  | 125,0 | 68,0 | 15,2 | 3,0 | 3     | Cylindrical | ■              |
| S4531-200E3R050.0Z3C | AXT   | 10228142    | 3            | E          | ■              | 20,0 | 20,0 | 65,0  | 150,0 | 85,0 | 19,0 | 0,5 | 3     | Cylindrical | ■              |
| S4531-200E3R100.0Z3C | AXT   | 10228143    | 3            | E          | ■              | 20,0 | 20,0 | 65,0  | 150,0 | 85,0 | 19,0 | 1,0 | 3     | Cylindrical | ■              |
| S4531-200E3R200.0Z3C | AXT   | 10228144    | 3            | E          | ■              | 20,0 | 20,0 | 65,0  | 150,0 | 85,0 | 19,0 | 2,0 | 3     | Cylindrical | ■              |
| S4531-200E3R300.0Z3C | AXT   | 10228145    | 3            | E          | ■              | 20,0 | 20,0 | 65,0  | 150,0 | 85,0 | 19,0 | 3,0 | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

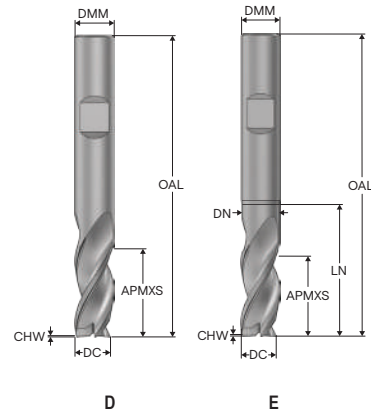
Graphite

X-Heads

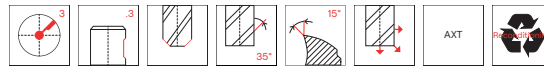
Minimaster

## S4531

High performance – Aluminium – Square – 3 Flutes – Weldon – Chamfer



- Tolerances:  
—DMM=h5  
—DC= e7  
—CHW= +0,04 mm  
—Regrind possible if DC is  $\geq \varnothing 6$



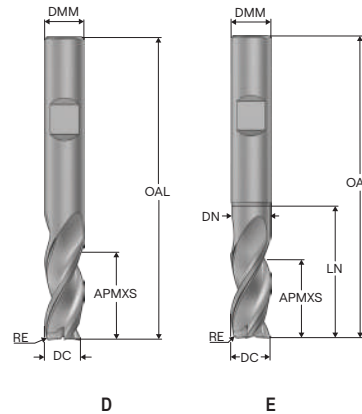
| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW | PCEDC | Shank  | Stock standard           |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|--------|--------------------------|
| S4531-060D2C.3Z3 | AXT   | 10286946    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | —    | —    | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-060E2C.3Z3 | AXT   | 10286949    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 19,0 | 5,7  | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-080D2C.3Z3 | AXT   | 10286952    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | —    | —    | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-080E2C.3Z3 | AXT   | 10286955    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-100D2C.3Z3 | AXT   | 10286958    | 2            | D          | 10,0 | 10,0 | 20,0  | 72,0  | —    | —    | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-100E2C.3Z3 | AXT   | 10286962    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0 | 9,5  | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120D2C.3Z3 | AXT   | 10286966    | 2            | D          | 12,0 | 12,0 | 24,0  | 88,0  | —    | —    | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120E2C.3Z3 | AXT   | 10286971    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0 | 11,4 | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-140D2C.3Z3 | AXT   | 10286977    | 2            | D          | 14,0 | 14,0 | 28,0  | 89,0  | —    | —    | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160D2C.3Z3 | AXT   | 10286978    | 2            | D          | 16,0 | 16,0 | 32,0  | 100,0 | —    | —    | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E2C.3Z3 | AXT   | 10286989    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-060D3C.3Z3 | AXT   | 10286940    | 3            | D          | 6,0  | 6,0  | 19,0  | 63,0  | —    | —    | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-080D3C.3Z3 | AXT   | 10286941    | 3            | D          | 8,0  | 8,0  | 26,0  | 74,0  | —    | —    | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-100D3C.3Z3 | AXT   | 10286942    | 3            | D          | 10,0 | 10,0 | 32,0  | 84,0  | —    | —    | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120D3C.3Z3 | AXT   | 10286943    | 3            | D          | 12,0 | 12,0 | 38,0  | 99,0  | —    | —    | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160D3C.3Z3 | AXT   | 10286944    | 3            | D          | 16,0 | 16,0 | 50,0  | 114,0 | —    | —    | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200D3C.3Z3 | AXT   | 10286945    | 3            | D          | 20,0 | 20,0 | 62,0  | 150,0 | —    | —    | 0,1 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E3C.3Z3 | AXT   | 10286995    | 3            | E          | 20,0 | 20,0 | 40,0  | 150,0 | 90,0 | 19,0 | 0,1 | 3     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

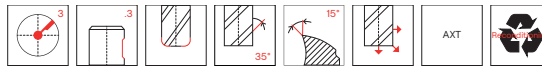


## S4531

High performance – Aluminium – Square – 3 Flutes – Weldon – Corner radius



- Tolerances:
- DMM=h5
- DC= e7
- RE=  $\pm 0,02$  mm
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation         | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank  | Stock standard           |
|---------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|--------|--------------------------|
| S4531-060D2R050.3Z3 | AXT   | 10286947    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | —    | —    | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-060E2R050.3Z3 | AXT   | 10286950    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 19,0 | 5,7  | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-060D2R100.3Z3 | AXT   | 10286948    | 2            | D          | 6,0  | 6,0  | 12,0  | 57,0  | —    | —    | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-060E2R100.3Z3 | AXT   | 10286951    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 19,0 | 5,7  | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-080D2R050.3Z3 | AXT   | 10286953    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | —    | —    | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-080E2R050.3Z3 | AXT   | 10286956    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-080D2R100.3Z3 | AXT   | 10286954    | 2            | D          | 8,0  | 8,0  | 16,0  | 63,0  | —    | —    | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-080E2R100.3Z3 | AXT   | 10286957    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 25,0 | 7,6  | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-100D2R050.3Z3 | AXT   | 10286959    | 2            | D          | 10,0 | 10,0 | 20,0  | 72,0  | —    | —    | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-100E2R050.3Z3 | AXT   | 10286963    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0 | 9,5  | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-100D2R100.3Z3 | AXT   | 10286960    | 2            | D          | 10,0 | 10,0 | 20,0  | 72,0  | —    | —    | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-100E2R100.3Z3 | AXT   | 10286964    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0 | 9,5  | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-100D2R200.3Z3 | AXT   | 10286961    | 2            | D          | 10,0 | 10,0 | 20,0  | 72,0  | —    | —    | 2,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-100E2R200.3Z3 | AXT   | 10286965    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0 | 9,5  | 2,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120D2R050.3Z3 | AXT   | 10286967    | 2            | D          | 12,0 | 12,0 | 24,0  | 88,0  | —    | —    | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120E2R050.3Z3 | AXT   | 10286972    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0 | 11,4 | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120D2R100.3Z3 | AXT   | 10286968    | 2            | D          | 12,0 | 12,0 | 24,0  | 88,0  | —    | —    | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120E2R100.3Z3 | AXT   | 10286973    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0 | 11,4 | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120D2R200.3Z3 | AXT   | 10286969    | 2            | D          | 12,0 | 12,0 | 24,0  | 88,0  | —    | —    | 2,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120E2R200.3Z3 | AXT   | 10286974    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0 | 11,4 | 2,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120D2R300.3Z3 | AXT   | 10286970    | 2            | D          | 12,0 | 12,0 | 24,0  | 88,0  | —    | —    | 3,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120E2R300.3Z3 | AXT   | 10286975    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0 | 11,4 | 3,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160D2R050.3Z3 | AXT   | 10286979    | 2            | D          | 16,0 | 16,0 | 32,0  | 100,0 | —    | —    | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160E2R100.3Z3 | AXT   | 10286980    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0 | 15,2 | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160E2R200.3Z3 | AXT   | 10286981    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0 | 15,2 | 2,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160E2R250.3Z3 | AXT   | 10286982    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0 | 15,2 | 2,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160E2R300.3Z3 | AXT   | 10286983    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0 | 15,2 | 3,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160E2R400.3Z3 | AXT   | 10286984    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0 | 15,2 | 4,0 | 3     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

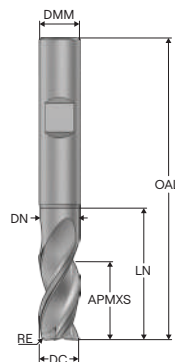
Graphite

X-Heads

Minimaster

## S4531

High performance – Aluminium – Square – 3 Flutes – Weldon – Corner radius



E

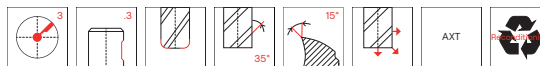
—Tolerances:

—DMM=h5

—DC= e7

—RE= ±0,02 mm

—Regrind possible if DC is ≥Ø6

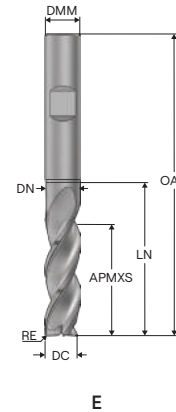


| Designation         | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank  | Stock standard           |
|---------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|--------|--------------------------|
| S4531-200E2R050.3Z3 | AXT   | 10286990    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E2R100.3Z3 | AXT   | 10286991    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E2R200.3Z3 | AXT   | 10286992    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 2,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E2R300.3Z3 | AXT   | 10286993    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 3,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E2R400.3Z3 | AXT   | 10286994    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 4,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120E3R300.3Z3 | AXT   | 10286976    | 3            | E          | 12,0 | 12,0 | 24,0  | 110,0 | 54,0 | 11,4 | 3,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160E3R100.3Z3 | AXT   | 10286985    | 3            | E          | 16,0 | 16,0 | 32,0  | 129,0 | 77,0 | 15,2 | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160E3R200.3Z3 | AXT   | 10286986    | 3            | E          | 16,0 | 16,0 | 32,0  | 129,0 | 77,0 | 15,2 | 2,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160E3R300.3Z3 | AXT   | 10286987    | 3            | E          | 16,0 | 16,0 | 32,0  | 129,0 | 77,0 | 15,2 | 3,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160E3R400.3Z3 | AXT   | 10286988    | 3            | E          | 16,0 | 16,0 | 32,0  | 129,0 | 77,0 | 15,2 | 4,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E3R050.3Z3 | AXT   | 10286996    | 3            | E          | 20,0 | 20,0 | 40,0  | 150,0 | 90,0 | 19,0 | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E3R100.3Z3 | AXT   | 10286997    | 3            | E          | 20,0 | 20,0 | 40,0  | 150,0 | 90,0 | 19,0 | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E3R200.3Z3 | AXT   | 10286998    | 3            | E          | 20,0 | 20,0 | 40,0  | 150,0 | 90,0 | 19,0 | 2,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E3R300.3Z3 | AXT   | 10286999    | 3            | E          | 20,0 | 20,0 | 40,0  | 150,0 | 90,0 | 19,0 | 3,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E3R400.3Z3 | AXT   | 10287000    | 3            | E          | 20,0 | 20,0 | 40,0  | 150,0 | 90,0 | 19,0 | 4,0 | 3     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

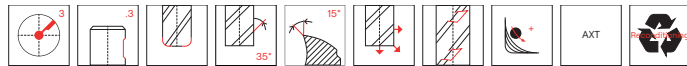
## S4531

High performance – Aluminium – Square – 3 Flutes – Weldon – Corner radius



E

- Tolerances:
- DMM=h5
- DC= e7
- RE=  $\pm 0,02$  mm
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation          | Grade | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank  | Stock standard           |
|----------------------|-------|-------------|--------------|------------|----------------|------|------|-------|-------|------|------|-----|-------|--------|--------------------------|
| S4531-060E3R050.3Z3C | AXT   | 10287001    | 3            | E          | ■              | 6,0  | 6,0  | 19,0  | 63,0  | 25,0 | 5,7  | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-060E3R100.3Z3C | AXT   | 10287002    | 3            | E          | ■              | 6,0  | 6,0  | 19,0  | 63,0  | 25,0 | 5,7  | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-080E3R050.3Z3C | AXT   | 10287004    | 3            | E          | ■              | 8,0  | 8,0  | 26,0  | 74,0  | 34,0 | 7,6  | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-080E3R100.3Z3C | AXT   | 10287005    | 3            | E          | ■              | 8,0  | 8,0  | 26,0  | 74,0  | 34,0 | 7,6  | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-080E3R200.3Z3C | AXT   | 10287006    | 3            | E          | ■              | 8,0  | 8,0  | 26,0  | 74,0  | 34,0 | 7,6  | 2,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-100E3R050.3Z3C | AXT   | 10287007    | 3            | E          | ■              | 10,0 | 10,0 | 32,0  | 84,0  | 42,0 | 9,5  | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-100E3R100.3Z3C | AXT   | 10287008    | 3            | E          | ■              | 10,0 | 10,0 | 32,0  | 84,0  | 42,0 | 9,5  | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-100E3R200.3Z3C | AXT   | 10287009    | 3            | E          | ■              | 10,0 | 10,0 | 32,0  | 84,0  | 42,0 | 9,5  | 2,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120E3R050.3Z3C | AXT   | 10287010    | 3            | E          | ■              | 12,0 | 12,0 | 39,0  | 99,0  | 51,0 | 11,4 | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120E3R100.3Z3C | AXT   | 10287011    | 3            | E          | ■              | 12,0 | 12,0 | 39,0  | 99,0  | 51,0 | 11,4 | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120E3R200.3Z3C | AXT   | 10287012    | 3            | E          | ■              | 12,0 | 12,0 | 39,0  | 99,0  | 51,0 | 11,4 | 2,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-120E3R300.3Z3C | AXT   | 10287013    | 3            | E          | ■              | 12,0 | 12,0 | 39,0  | 99,0  | 51,0 | 11,4 | 3,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160E3R050.3Z3C | AXT   | 10287014    | 3            | E          | ■              | 16,0 | 16,0 | 52,0  | 125,0 | 68,0 | 15,2 | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160E3R100.3Z3C | AXT   | 10287015    | 3            | E          | ■              | 16,0 | 16,0 | 52,0  | 125,0 | 68,0 | 15,2 | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160E3R200.3Z3C | AXT   | 10287016    | 3            | E          | ■              | 16,0 | 16,0 | 52,0  | 125,0 | 68,0 | 15,2 | 2,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-160E3R300.3Z3C | AXT   | 10287017    | 3            | E          | ■              | 16,0 | 16,0 | 52,0  | 125,0 | 68,0 | 15,2 | 3,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E3R050.3Z3C | AXT   | 10287018    | 3            | E          | ■              | 20,0 | 20,0 | 65,0  | 150,0 | 85,0 | 19,0 | 0,5 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E3R100.3Z3C | AXT   | 10287019    | 3            | E          | ■              | 20,0 | 20,0 | 65,0  | 150,0 | 85,0 | 19,0 | 1,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E3R200.3Z3C | AXT   | 10287020    | 3            | E          | ■              | 20,0 | 20,0 | 65,0  | 150,0 | 85,0 | 19,0 | 2,0 | 3     | Weldon | <input type="checkbox"/> |
| S4531-200E3R300.3Z3C | AXT   | 10287021    | 3            | E          | ■              | 20,0 | 20,0 | 65,0  | 150,0 | 85,0 | 19,0 | 3,0 | 3     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – S4531 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>   |                 |                 |                 |                 |                 |                |                |                |                |                | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                    |                    | 2                | 3               | 4               | 5               | 6               | 8               | 10             | 12             | 14             | 16             | 20             |                                       |
| N1  | E/M/A                                                                             | 0,40<br>0,40       | 1,5<br>1,5         | 0,030<br>0,0012  | 0,046<br>0,0018 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,12<br>0,0048  | 0,15<br>0,0060 | 0,18<br>0,0070 | 0,20<br>0,0080 | 0,22<br>0,0085 | 0,25<br>0,010  | 560 (450 — 660)<br>1825 (1500 — 2100) |
| N2  | E/M/A                                                                             | 0,30<br>0,30       | 1,7<br>1,7         | 0,024<br>0,00095 | 0,036<br>0,0014 | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,095<br>0,0038 | 0,12<br>0,0048 | 0,14<br>0,0055 | 0,16<br>0,0065 | 0,18<br>0,0070 | 0,20<br>0,0080 | 480 (370 — 600)<br>1575 (1300 — 1900) |
| N3  | E/M/A                                                                             | 0,30<br>0,30       | 1,7<br>1,7         | 0,024<br>0,00095 | 0,036<br>0,0014 | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,095<br>0,0038 | 0,12<br>0,0048 | 0,14<br>0,0055 | 0,16<br>0,0065 | 0,18<br>0,0070 | 0,20<br>0,0080 | 320 (250 — 400)<br>1050 (830 — 1300)  |
| TS1 | A/D                                                                               | 0,40<br>0,40       | 1,5<br>1,5         | 0,030<br>0,0012  | 0,046<br>0,0018 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,12<br>0,0048  | 0,15<br>0,0060 | 0,18<br>0,0070 | 0,20<br>0,0080 | 0,22<br>0,0085 | 0,25<br>0,010  | 560 (450 — 660)<br>1825 (1500 — 2100) |
| TP1 | A/D                                                                               | 0,40<br>0,40       | 1,5<br>1,5         | 0,030<br>0,0012  | 0,046<br>0,0018 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,12<br>0,0048  | 0,15<br>0,0060 | 0,18<br>0,0070 | 0,20<br>0,0080 | 0,22<br>0,0085 | 0,25<br>0,010  | 445 (340 — 550)<br>1450 (1200 — 1800) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – S4531 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>   |                  |                 |                 |                 |                 |                 |                 |                |                |                | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                    | 2                | 3                | 4               | 5               | 6               | 8               | 10              | 12              | 14             | 16             | 20             |                                       |
| N1  | E                                                                                 | 1,5<br>1,5         | 0,020<br>0,00080 | 0,030<br>0,0012  | 0,040<br>0,0016 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,080<br>0,0032 | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,14<br>0,0055 | 0,16<br>0,0065 | 0,20<br>0,0080 | 495 (400 — 590)<br>1625 (1400 — 1900) |
| N2  | E                                                                                 | 1,2<br>1,2         | 0,016<br>0,00065 | 0,024<br>0,00095 | 0,032<br>0,0013 | 0,040<br>0,0016 | 0,048<br>0,0019 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,11<br>0,0044 | 0,13<br>0,0050 | 0,16<br>0,0065 | 395 (300 — 490)<br>1300 (990 — 1600)  |
| N3  | E                                                                                 | 1,2<br>1,2         | 0,016<br>0,00065 | 0,024<br>0,00095 | 0,032<br>0,0013 | 0,040<br>0,0016 | 0,048<br>0,0019 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,11<br>0,0044 | 0,13<br>0,0050 | 0,16<br>0,0065 | 265 (200 — 320)<br>870 (660 — 1000)   |
| TS1 | A                                                                                 | 1,5<br>1,5         | 0,020<br>0,00080 | 0,030<br>0,0012  | 0,040<br>0,0016 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,080<br>0,0032 | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,14<br>0,0055 | 0,16<br>0,0065 | 0,20<br>0,0080 | 495 (400 — 590)<br>1625 (1400 — 1900) |
| TP1 | A                                                                                 | 1,5<br>1,5         | 0,020<br>0,00080 | 0,030<br>0,0012  | 0,040<br>0,0016 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,080<br>0,0032 | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,14<br>0,0055 | 0,16<br>0,0065 | 0,20<br>0,0080 | 395 (300 — 490)<br>1300 (990 — 1600)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

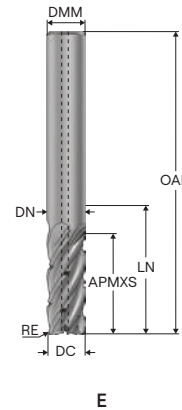
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

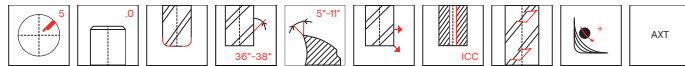
## S4651

High performance – Aluminium – Square – 5 Flutes – Cylindrical



E

—Tolerances:  
—DMM=h5  
—DC= e7  
—RE= ±0,02 mm



| Designation           | Grade | Item number | Length index | Tool shape | Chip splitters | CSP | DC   | DMM  | APMXS | OAL   | LN    | DN   | RE  | PCEDC | Shank       | Stock standard |
|-----------------------|-------|-------------|--------------|------------|----------------|-----|------|------|-------|-------|-------|------|-----|-------|-------------|----------------|
| S4651-060E2R050.0Z5AC | AXT   | 10228163    | 2            | E          | ■              | ■   | 6,0  | 6,0  | 14,0  | 57,0  | 20,0  | 5,7  | 0,5 | 5     | Cylindrical | ■              |
| S4651-060E2R100.0Z5AC | AXT   | 10228164    | 2            | E          | ■              | ■   | 6,0  | 6,0  | 14,0  | 57,0  | 20,0  | 5,7  | 1,0 | 5     | Cylindrical | ■              |
| S4651-080E2R050.0Z5AC | AXT   | 10228167    | 2            | E          | ■              | ■   | 8,0  | 8,0  | 18,0  | 63,0  | 26,0  | 7,6  | 0,5 | 5     | Cylindrical | ■              |
| S4651-080E2R100.0Z5AC | AXT   | 10228168    | 2            | E          | ■              | ■   | 8,0  | 8,0  | 18,0  | 63,0  | 26,0  | 7,6  | 1,0 | 5     | Cylindrical | ■              |
| S4651-100E2R050.0Z5AC | AXT   | 10228171    | 2            | E          | ■              | ■   | 10,0 | 10,0 | 23,0  | 75,0  | 33,0  | 9,5  | 0,5 | 5     | Cylindrical | ■              |
| S4651-100E2R100.0Z5AC | AXT   | 10228172    | 2            | E          | ■              | ■   | 10,0 | 10,0 | 23,0  | 75,0  | 33,0  | 9,5  | 1,0 | 5     | Cylindrical | ■              |
| S4651-120E2R050.0Z5AC | AXT   | 10228175    | 2            | E          | ■              | ■   | 12,0 | 12,0 | 27,0  | 88,0  | 39,0  | 11,4 | 0,5 | 5     | Cylindrical | ■              |
| S4651-120E2R100.0Z5AC | AXT   | 10228176    | 2            | E          | ■              | ■   | 12,0 | 12,0 | 27,0  | 88,0  | 39,0  | 11,4 | 1,0 | 5     | Cylindrical | ■              |
| S4651-120E2R200.0Z5AC | AXT   | 10228177    | 2            | E          | ■              | ■   | 12,0 | 12,0 | 27,0  | 88,0  | 39,0  | 11,4 | 2,0 | 5     | Cylindrical | ■              |
| S4651-120E2R300.0Z5AC | AXT   | 10228178    | 2            | E          | ■              | ■   | 12,0 | 12,0 | 27,0  | 88,0  | 39,0  | 11,4 | 3,0 | 5     | Cylindrical | ■              |
| S4651-160E2R050.0Z5AC | AXT   | 10228183    | 2            | E          | ■              | ■   | 16,0 | 16,0 | 36,0  | 105,0 | 52,0  | 15,2 | 0,5 | 5     | Cylindrical | ■              |
| S4651-160E2R100.0Z5AC | AXT   | 10228184    | 2            | E          | ■              | ■   | 16,0 | 16,0 | 36,0  | 105,0 | 52,0  | 15,2 | 1,0 | 5     | Cylindrical | ■              |
| S4651-160E2R200.0Z5AC | AXT   | 10228185    | 2            | E          | ■              | ■   | 16,0 | 16,0 | 36,0  | 105,0 | 52,0  | 15,2 | 2,0 | 5     | Cylindrical | ■              |
| S4651-160E2R300.0Z5AC | AXT   | 10228186    | 2            | E          | ■              | ■   | 16,0 | 16,0 | 36,0  | 105,0 | 52,0  | 15,2 | 3,0 | 5     | Cylindrical | ■              |
| S4651-200E2R050.0Z5AC | AXT   | 10228191    | 2            | E          | ■              | ■   | 20,0 | 20,0 | 45,0  | 120,0 | 65,0  | 19,0 | 0,5 | 5     | Cylindrical | ■              |
| S4651-200E2R100.0Z5AC | AXT   | 10228193    | 2            | E          | ■              | ■   | 20,0 | 20,0 | 45,0  | 120,0 | 65,0  | 19,0 | 1,0 | 5     | Cylindrical | ■              |
| S4651-200E2R200.0Z5AC | AXT   | 10228194    | 2            | E          | ■              | ■   | 20,0 | 20,0 | 45,0  | 120,0 | 65,0  | 19,0 | 2,0 | 5     | Cylindrical | ■              |
| S4651-200E2R300.0Z5AC | AXT   | 10228195    | 2            | E          | ■              | ■   | 20,0 | 20,0 | 45,0  | 120,0 | 65,0  | 19,0 | 3,0 | 5     | Cylindrical | ■              |
| S4651-060E4R050.0Z5AC | AXT   | 10228165    | 4            | E          | ■              | ■   | 6,0  | 6,0  | 26,0  | 70,0  | 32,0  | 5,7  | 0,5 | 5     | Cylindrical | ■              |
| S4651-060E4R100.0Z5AC | AXT   | 10228166    | 4            | E          | ■              | ■   | 6,0  | 6,0  | 26,0  | 70,0  | 32,0  | 5,7  | 1,0 | 5     | Cylindrical | ■              |
| S4651-080E4R050.0Z5AC | AXT   | 10228169    | 4            | E          | ■              | ■   | 8,0  | 8,0  | 34,0  | 80,0  | 42,0  | 7,6  | 0,5 | 5     | Cylindrical | ■              |
| S4651-080E4R100.0Z5AC | AXT   | 10228170    | 4            | E          | ■              | ■   | 8,0  | 8,0  | 34,0  | 80,0  | 42,0  | 7,6  | 1,0 | 5     | Cylindrical | ■              |
| S4651-100E4R050.0Z5AC | AXT   | 10228173    | 4            | E          | ■              | ■   | 10,0 | 10,0 | 43,0  | 95,0  | 53,0  | 9,5  | 0,5 | 5     | Cylindrical | ■              |
| S4651-100E4R100.0Z5AC | AXT   | 10228174    | 4            | E          | ■              | ■   | 10,0 | 10,0 | 43,0  | 95,0  | 53,0  | 9,5  | 1,0 | 5     | Cylindrical | ■              |
| S4651-120E4R050.0Z5AC | AXT   | 10228179    | 4            | E          | ■              | ■   | 12,0 | 12,0 | 51,0  | 110,0 | 63,0  | 11,4 | 0,5 | 5     | Cylindrical | ■              |
| S4651-120E4R100.0Z5AC | AXT   | 10228180    | 4            | E          | ■              | ■   | 12,0 | 12,0 | 51,0  | 110,0 | 63,0  | 11,4 | 1,0 | 5     | Cylindrical | ■              |
| S4651-120E4R200.0Z5AC | AXT   | 10228181    | 4            | E          | ■              | ■   | 12,0 | 12,0 | 51,0  | 110,0 | 63,0  | 11,4 | 2,0 | 5     | Cylindrical | ■              |
| S4651-120E4R300.0Z5AC | AXT   | 10228182    | 4            | E          | ■              | ■   | 12,0 | 12,0 | 51,0  | 110,0 | 63,0  | 11,4 | 3,0 | 5     | Cylindrical | ■              |
| S4651-160E4R050.0Z5AC | AXT   | 10228187    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 68,0  | 135,0 | 84,0  | 15,2 | 0,5 | 5     | Cylindrical | ■              |
| S4651-160E4R100.0Z5AC | AXT   | 10228188    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 68,0  | 135,0 | 84,0  | 15,2 | 1,0 | 5     | Cylindrical | ■              |
| S4651-160E4R200.0Z5AC | AXT   | 10228189    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 68,0  | 135,0 | 84,0  | 15,2 | 2,0 | 5     | Cylindrical | ■              |
| S4651-160E4R300.0Z5AC | AXT   | 10228190    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 68,0  | 135,0 | 84,0  | 15,8 | 3,0 | 5     | Cylindrical | ■              |
| S4651-200E4R050.0Z5AC | AXT   | 10228196    | 4            | E          | ■              | ■   | 20,0 | 20,0 | 85,0  | 160,0 | 105,0 | 19,0 | 0,5 | 5     | Cylindrical | ■              |
| S4651-200E4R100.0Z5AC | AXT   | 10228197    | 4            | E          | ■              | ■   | 20,0 | 20,0 | 85,0  | 160,0 | 105,0 | 19,0 | 1,0 | 5     | Cylindrical | ■              |
| S4651-200E4R200.0Z5AC | AXT   | 10228198    | 4            | E          | ■              | ■   | 20,0 | 20,0 | 85,0  | 160,0 | 105,0 | 19,0 | 2,0 | 5     | Cylindrical | ■              |
| S4651-200E4R300.0Z5AC | AXT   | 10228199    | 4            | E          | ■              | ■   | 20,0 | 20,0 | 85,0  | 160,0 | 105,0 | 19,0 | 3,0 | 5     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfzp

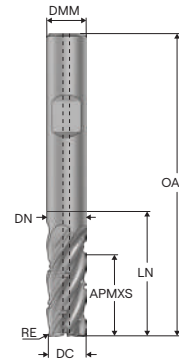
Graphite

X-Heads

Minimaster

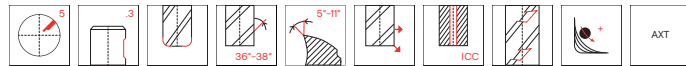
## S4651

High performance – Aluminium – Square – 5 Flutes – Weldon



E

—Tolerances:  
—DMM=h5  
—DC= e7  
—RE= ±0,02 mm



| Designation           | Grade | Item number | Length index | Tool shape | Chip splitters | CSP | DC   | DMM  | APMXS | OAL   | LN    | DN   | RE  | PCEDC | Shank  | Stock standard           |
|-----------------------|-------|-------------|--------------|------------|----------------|-----|------|------|-------|-------|-------|------|-----|-------|--------|--------------------------|
| S4651-060E2R050.3Z5AC | AXT   | 10287053    | 2            | E          | ■              | ■   | 6,0  | 6,0  | 14,0  | 57,0  | 20,0  | 5,7  | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| S4651-060E2R100.3Z5AC | AXT   | 10287054    | 2            | E          | ■              | ■   | 6,0  | 6,0  | 14,0  | 57,0  | 20,0  | 5,7  | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-080E2R050.3Z5AC | AXT   | 10287057    | 2            | E          | ■              | ■   | 8,0  | 8,0  | 18,0  | 63,0  | 26,0  | 7,6  | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| S4651-080E2R100.3Z5AC | AXT   | 10287058    | 2            | E          | ■              | ■   | 8,0  | 8,0  | 18,0  | 63,0  | 26,0  | 7,6  | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-100E2R050.3Z5AC | AXT   | 10287061    | 2            | E          | ■              | ■   | 10,0 | 10,0 | 23,0  | 75,0  | 33,0  | 9,5  | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| S4651-100E2R100.3Z5AC | AXT   | 10287062    | 2            | E          | ■              | ■   | 10,0 | 10,0 | 23,0  | 75,0  | 33,0  | 9,5  | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-120E2R050.3Z5AC | AXT   | 10287065    | 2            | E          | ■              | ■   | 12,0 | 12,0 | 27,0  | 88,0  | 39,0  | 11,4 | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| S4651-120E2R100.3Z5AC | AXT   | 10287066    | 2            | E          | ■              | ■   | 12,0 | 12,0 | 27,0  | 88,0  | 39,0  | 11,4 | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-120E2R200.3Z5AC | AXT   | 10287067    | 2            | E          | ■              | ■   | 12,0 | 12,0 | 27,0  | 88,0  | 39,0  | 11,4 | 2,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-120E2R300.3Z5AC | AXT   | 10287068    | 2            | E          | ■              | ■   | 12,0 | 12,0 | 27,0  | 88,0  | 39,0  | 11,4 | 3,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-160E2R050.3Z5AC | AXT   | 10287073    | 2            | E          | ■              | ■   | 16,0 | 16,0 | 36,0  | 105,0 | 52,0  | 15,2 | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| S4651-160E2R100.3Z5AC | AXT   | 10287074    | 2            | E          | ■              | ■   | 16,0 | 16,0 | 36,0  | 105,0 | 52,0  | 15,2 | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-160E2R200.3Z5AC | AXT   | 10287075    | 2            | E          | ■              | ■   | 16,0 | 16,0 | 36,0  | 105,0 | 52,0  | 15,2 | 2,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-160E2R300.3Z5AC | AXT   | 10287076    | 2            | E          | ■              | ■   | 16,0 | 16,0 | 36,0  | 105,0 | 52,0  | 15,2 | 3,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-200E2R050.3Z5AC | AXT   | 10287081    | 2            | E          | ■              | ■   | 20,0 | 20,0 | 45,0  | 120,0 | 65,0  | 19,0 | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| S4651-200E2R100.3Z5AC | AXT   | 10287082    | 2            | E          | ■              | ■   | 20,0 | 20,0 | 45,0  | 120,0 | 65,0  | 19,0 | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-200E2R200.3Z5AC | AXT   | 10287083    | 2            | E          | ■              | ■   | 20,0 | 20,0 | 45,0  | 120,0 | 65,0  | 19,0 | 2,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-200E2R300.3Z5AC | AXT   | 10287084    | 2            | E          | ■              | ■   | 20,0 | 20,0 | 45,0  | 120,0 | 65,0  | 19,0 | 3,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-060E4R050.3Z5AC | AXT   | 10287055    | 4            | E          | ■              | ■   | 6,0  | 6,0  | 26,0  | 70,0  | 32,0  | 5,7  | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| S4651-060E4R100.3Z5AC | AXT   | 10287056    | 4            | E          | ■              | ■   | 6,0  | 6,0  | 26,0  | 70,0  | 32,0  | 5,7  | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-080E4R050.3Z5AC | AXT   | 10287059    | 4            | E          | ■              | ■   | 8,0  | 8,0  | 34,0  | 80,0  | 42,0  | 7,6  | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| S4651-080E4R100.3Z5AC | AXT   | 10287060    | 4            | E          | ■              | ■   | 8,0  | 8,0  | 34,0  | 80,0  | 42,0  | 7,6  | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-100E4R050.3Z5AC | AXT   | 10287063    | 4            | E          | ■              | ■   | 10,0 | 10,0 | 43,0  | 95,0  | 53,0  | 9,5  | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| S4651-100E4R100.3Z5AC | AXT   | 10287064    | 4            | E          | ■              | ■   | 10,0 | 10,0 | 43,0  | 95,0  | 53,0  | 9,5  | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-120E4R050.3Z5AC | AXT   | 10287069    | 4            | E          | ■              | ■   | 12,0 | 12,0 | 51,0  | 110,0 | 63,0  | 11,4 | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| S4651-120E4R100.3Z5AC | AXT   | 10287070    | 4            | E          | ■              | ■   | 12,0 | 12,0 | 51,0  | 110,0 | 63,0  | 11,4 | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-120E4R200.3Z5AC | AXT   | 10287071    | 4            | E          | ■              | ■   | 12,0 | 12,0 | 51,0  | 110,0 | 63,0  | 11,4 | 2,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-120E4R300.3Z5AC | AXT   | 10287072    | 4            | E          | ■              | ■   | 12,0 | 12,0 | 51,0  | 110,0 | 63,0  | 11,4 | 3,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-160E4R050.3Z5AC | AXT   | 10287077    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 68,0  | 135,0 | 84,0  | 15,2 | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| S4651-160E4R100.3Z5AC | AXT   | 10287078    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 68,0  | 135,0 | 84,0  | 15,2 | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-160E4R200.3Z5AC | AXT   | 10287079    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 68,0  | 135,0 | 84,0  | 15,2 | 2,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-160E4R300.3Z5AC | AXT   | 10287080    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 68,0  | 135,0 | 84,0  | 15,2 | 3,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-200E4R050.3Z5AC | AXT   | 10287085    | 4            | E          | ■              | ■   | 20,0 | 20,0 | 85,0  | 160,0 | 105,0 | 19,0 | 0,5 | 5     | Weldon | <input type="checkbox"/> |
| S4651-200E4R100.3Z5AC | AXT   | 10287086    | 4            | E          | ■              | ■   | 20,0 | 20,0 | 85,0  | 160,0 | 105,0 | 19,0 | 1,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-200E4R200.3Z5AC | AXT   | 10287087    | 4            | E          | ■              | ■   | 20,0 | 20,0 | 85,0  | 160,0 | 105,0 | 19,0 | 2,0 | 5     | Weldon | <input type="checkbox"/> |
| S4651-200E4R300.3Z5AC | AXT   | 10287088    | 4            | E          | ■              | ■   | 20,0 | 20,0 | 85,0  | 160,0 | 105,0 | 19,0 | 3,0 | 5     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

## Cutting data – S4651 Side milling

| SMG |  | $a_e/DC$     | $a_p/DC$   | $f_z$           |                 |                 |                 |                |                | $v_c$                                |
|-----|-----------------------------------------------------------------------------------|--------------|------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|--------------------------------------|
|     |                                                                                   |              |            | 6               | 8               | 10              | 12              | 16             | 20             |                                      |
| N1  | E                                                                                 | 0,40<br>0,40 | 2,2<br>2,2 | 0,055<br>0,0022 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,14<br>0,0055 | 0,16<br>0,0065 | 330 (260 — 410)<br>1075 (860 — 1300) |
| N2  | E                                                                                 | 0,40<br>0,40 | 2,0<br>2,0 | 0,046<br>0,0018 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,11<br>0,0044 | 0,13<br>0,0050 | 280 (220 — 350)<br>920 (730 — 1100)  |
| N3  | E                                                                                 | 0,40<br>0,40 | 2,0<br>2,0 | 0,046<br>0,0018 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,11<br>0,0044 | 0,13<br>0,0050 | 185 (150 — 230)<br>610 (500 — 750)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – S4651 Side milling advanced roughing $a_e/DC=0,07$

| SMG |  | $a_p/DC$   | $f_z$           |                 |                 |                 |                |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |            | 6               | 8               | 10              | 12              | 16             | 20             |                                       |
| N1  | E                                                                                 | 2,2<br>2,2 | 0,070<br>0,0028 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,19<br>0,0075 | 0,24<br>0,0095 | 475 (370 — 600)<br>1550 (1300 — 1900) |
| N2  | E                                                                                 | 2,0<br>2,0 | 0,048<br>0,0019 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,13<br>0,0050 | 0,16<br>0,0065 | 410 (320 — 520)<br>1350 (1100 — 1700) |
| N3  | E                                                                                 | 2,0<br>2,0 | 0,048<br>0,0019 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,13<br>0,0050 | 0,16<br>0,0065 | 275 (210 — 350)<br>900 (690 — 1100)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
iron

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

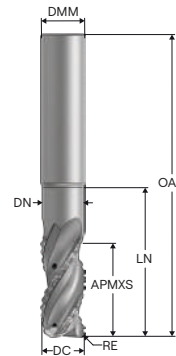
X-Heads

Minimaster



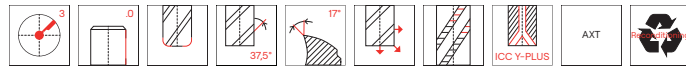
## HP4931

High performance – Aluminium – Square – 3 Flutes – Cylindrical – Corner radius



E

—Tolerances:  
—DMM=h5  
—DC -0,02/-0,1 mm  
—RE=+/-0,05 mm  
—Regrind possible



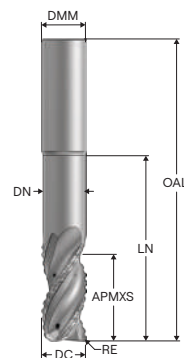
| Designation           | Grade | Item number | Length index | Tool shape | Chip splitters | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|-----------------------|-------|-------------|--------------|------------|----------------|-----|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
| HP4931-200E2R050.0Z3A | AXT   | 10318812    | 2            | E          | ■              | ■   | 20,0 | 20,0 | 34,0  | 100,0 | 50,0 | 19,0 | 0,5 | 3     | Cylindrical | ■              |
| HP4931-200E2R100.0Z3A | AXT   | 10318813    | 2            | E          | ■              | ■   | 20,0 | 20,0 | 34,0  | 100,0 | 50,0 | 19,0 | 1,0 | 3     | Cylindrical | ■              |
| HP4931-200E2R200.0Z3A | AXT   | 10318814    | 2            | E          | ■              | ■   | 20,0 | 20,0 | 34,0  | 100,0 | 50,0 | 19,0 | 2,0 | 3     | Cylindrical | ■              |
| HP4931-200E2R300.0Z3A | AXT   | 10318815    | 2            | E          | ■              | ■   | 20,0 | 20,0 | 34,0  | 100,0 | 50,0 | 19,0 | 3,0 | 3     | Cylindrical | ■              |
| HP4931-200E2R400.0Z3A | AXT   | 10318816    | 2            | E          | ■              | ■   | 20,0 | 20,0 | 34,0  | 100,0 | 50,0 | 19,0 | 4,0 | 3     | Cylindrical | ■              |
| HP4931-200E2R500.0Z3A | AXT   | 10318817    | 2            | E          | ■              | ■   | 20,0 | 20,0 | 34,0  | 100,0 | 50,0 | 19,0 | 5,0 | 3     | Cylindrical | □              |
| HP4931-250E2R050.0Z3A | AXT   | 10318824    | 2            | E          | ■              | ■   | 25,0 | 25,0 | 42,0  | 110,0 | 60,0 | 23,8 | 0,5 | 3     | Cylindrical | ■              |
| HP4931-250E2R100.0Z3A | AXT   | 10318825    | 2            | E          | ■              | ■   | 25,0 | 25,0 | 42,0  | 110,0 | 60,0 | 23,8 | 1,0 | 3     | Cylindrical | ■              |
| HP4931-250E2R200.0Z3A | AXT   | 10318826    | 2            | E          | ■              | ■   | 25,0 | 25,0 | 42,0  | 110,0 | 60,0 | 23,8 | 2,0 | 3     | Cylindrical | ■              |
| HP4931-250E2R300.0Z3A | AXT   | 10318827    | 2            | E          | ■              | ■   | 25,0 | 25,0 | 42,0  | 110,0 | 60,0 | 23,8 | 3,0 | 3     | Cylindrical | ■              |
| HP4931-250E2R400.0Z3A | AXT   | 10318828    | 2            | E          | ■              | ■   | 25,0 | 25,0 | 42,0  | 110,0 | 60,0 | 23,8 | 4,0 | 3     | Cylindrical | ■              |
| HP4931-250E2R500.0Z3A | AXT   | 10318829    | 2            | E          | ■              | ■   | 25,0 | 25,0 | 42,0  | 110,0 | 60,0 | 23,8 | 5,0 | 3     | Cylindrical | □              |
| HP4931-120E3R050.0Z3A | AXT   | 10318795    | 3            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 83,0  | 40,0 | 11,4 | 0,5 | 3     | Cylindrical | ■              |
| HP4931-120E3R100.0Z3A | AXT   | 10318796    | 3            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 83,0  | 40,0 | 11,4 | 1,0 | 3     | Cylindrical | ■              |
| HP4931-120E3R200.0Z3A | AXT   | 10318797    | 3            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 83,0  | 40,0 | 11,4 | 2,0 | 3     | Cylindrical | ■              |
| HP4931-120E3R300.0Z3A | AXT   | 10318798    | 3            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 83,0  | 40,0 | 11,4 | 3,0 | 3     | Cylindrical | ■              |
| HP4931-120E3R400.0Z3A | AXT   | 10318799    | 3            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 83,0  | 40,0 | 11,4 | 4,0 | 3     | Cylindrical | □              |
| HP4931-160E3R050.0Z3A | AXT   | 10318800    | 3            | E          | ■              | ■   | 16,0 | 16,0 | 34,0  | 95,0  | 52,0 | 15,2 | 0,5 | 3     | Cylindrical | ■              |
| HP4931-160E3R100.0Z3A | AXT   | 10318801    | 3            | E          | ■              | ■   | 16,0 | 16,0 | 34,0  | 95,0  | 52,0 | 15,2 | 1,0 | 3     | Cylindrical | ■              |
| HP4931-160E3R200.0Z3A | AXT   | 10318802    | 3            | E          | ■              | ■   | 16,0 | 16,0 | 34,0  | 95,0  | 52,0 | 15,2 | 2,0 | 3     | Cylindrical | ■              |
| HP4931-160E3R300.0Z3A | AXT   | 10318803    | 3            | E          | ■              | ■   | 16,0 | 16,0 | 34,0  | 95,0  | 52,0 | 15,2 | 3,0 | 3     | Cylindrical | ■              |
| HP4931-160E3R400.0Z3A | AXT   | 10318804    | 3            | E          | ■              | ■   | 16,0 | 16,0 | 34,0  | 95,0  | 52,0 | 15,2 | 4,0 | 3     | Cylindrical | ■              |
| HP4931-160E3R500.0Z3A | AXT   | 10318805    | 3            | E          | ■              | ■   | 16,0 | 16,0 | 34,0  | 95,0  | 52,0 | 15,2 | 5,0 | 3     | Cylindrical | □              |
| HP4931-200E3R050.0Z3A | AXT   | 10318818    | 3            | E          | ■              | ■   | 20,0 | 20,0 | 34,0  | 115,0 | 65,0 | 19,0 | 0,5 | 3     | Cylindrical | ■              |
| HP4931-200E3R100.0Z3A | AXT   | 10318819    | 3            | E          | ■              | ■   | 20,0 | 20,0 | 34,0  | 115,0 | 65,0 | 19,0 | 1,0 | 3     | Cylindrical | ■              |
| HP4931-200E3R200.0Z3A | AXT   | 10318820    | 3            | E          | ■              | ■   | 20,0 | 20,0 | 34,0  | 115,0 | 65,0 | 19,0 | 2,0 | 3     | Cylindrical | ■              |
| HP4931-200E3R300.0Z3A | AXT   | 10318821    | 3            | E          | ■              | ■   | 20,0 | 20,0 | 34,0  | 115,0 | 65,0 | 19,0 | 3,0 | 3     | Cylindrical | ■              |
| HP4931-200E3R400.0Z3A | AXT   | 10318822    | 3            | E          | ■              | ■   | 20,0 | 20,0 | 34,0  | 115,0 | 65,0 | 19,0 | 4,0 | 3     | Cylindrical | ■              |
| HP4931-200E3R500.0Z3A | AXT   | 10318823    | 3            | E          | ■              | ■   | 20,0 | 20,0 | 34,0  | 115,0 | 65,0 | 19,0 | 5,0 | 3     | Cylindrical | □              |
| HP4931-250E3R050.0Z3A | AXT   | 10318830    | 3            | E          | ■              | ■   | 25,0 | 25,0 | 35,0  | 130,0 | 80,0 | 23,8 | 0,5 | 3     | Cylindrical | ■              |
| HP4931-250E3R100.0Z3A | AXT   | 10318831    | 3            | E          | ■              | ■   | 25,0 | 25,0 | 35,0  | 130,0 | 80,0 | 23,8 | 1,0 | 3     | Cylindrical | ■              |
| HP4931-250E3R200.0Z3A | AXT   | 10318832    | 3            | E          | ■              | ■   | 25,0 | 25,0 | 35,0  | 130,0 | 80,0 | 23,8 | 2,0 | 3     | Cylindrical | ■              |
| HP4931-250E3R300.0Z3A | AXT   | 10318833    | 3            | E          | ■              | ■   | 25,0 | 25,0 | 35,0  | 130,0 | 80,0 | 23,8 | 3,0 | 3     | Cylindrical | ■              |
| HP4931-250E3R400.0Z3A | AXT   | 10318834    | 3            | E          | ■              | ■   | 25,0 | 25,0 | 35,0  | 130,0 | 80,0 | 23,8 | 4,0 | 3     | Cylindrical | ■              |
| HP4931-250E3R500.0Z3A | AXT   | 10318835    | 3            | E          | ■              | ■   | 25,0 | 25,0 | 35,0  | 130,0 | 80,0 | 23,8 | 5,0 | 3     | Cylindrical | □              |

■ Stocked standard.



## HP4931

High performance – Aluminium – Square – 3 Flutes – Cylindrical – Corner radius



E

- Tolerances:
- DMM=h5
- DC -0,02/-0,1 mm
- RE=+/-0,05 mm
- Regrind possible

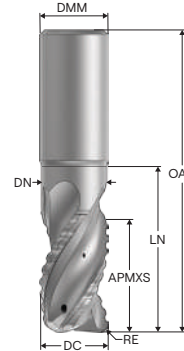


| Designation           | Grade | Item number | Length index | Tool shape | Chip splitters | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|-----------------------|-------|-------------|--------------|------------|----------------|-----|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
|                       |       |             |              |            |                |     | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |             |                |
| HP4931-160E4R050.0Z3A | AXT   | 10318806    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 34,0  | 110,0 | 67,0 | 15,2 | 0,5 | 3     | Cylindrical | ■              |
| HP4931-160E4R100.0Z3A | AXT   | 10318807    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 34,0  | 110,0 | 67,0 | 15,2 | 1,0 | 3     | Cylindrical | ■              |
| HP4931-160E4R200.0Z3A | AXT   | 10318808    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 34,0  | 110,0 | 67,0 | 15,2 | 2,0 | 3     | Cylindrical | ■              |
| HP4931-160E4R300.0Z3A | AXT   | 10318809    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 34,0  | 110,0 | 67,0 | 15,2 | 3,0 | 3     | Cylindrical | ■              |
| HP4931-160E4R400.0Z3A | AXT   | 10318810    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 34,0  | 110,0 | 67,0 | 15,2 | 4,0 | 3     | Cylindrical | ■              |
| HP4931-160E4R500.0Z3A | AXT   | 10318811    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 34,0  | 110,0 | 67,0 | 15,2 | 5,0 | 3     | Cylindrical | □              |

■ Stocked standard.

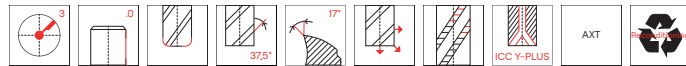
## HP4931

High performance – Aluminium – Square – 3 Flutes – Cylindrical – Corner radius – Inch



E

—Tolerances:  
—DMM=h5  
—DC -0.001"/-0.004"  
—RE=+/-0.002"  
—Regrind possible



| Designation             | Grade | Item number | Length index | Tool shape | Chip splitters | CSP | DC    | DMM   | APMXS | OAL   | LN    | DN    | RE    | PCEDC | Shank       | Stock standard |
|-------------------------|-------|-------------|--------------|------------|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| HP4931-.750E2R020.0Z3A  | AXT   | 10318851    | 2            | E          | ■              | ■   | 0.750 | 0.750 | 1.250 | 3.750 | 2.000 | 0.720 | 0.020 | 3     | Cylindrical | ■              |
| HP4931-.750E2R030.0Z3A  | AXT   | 10318852    | 2            | E          | ■              | ■   | 0.750 | 0.750 | 1.250 | 3.750 | 2.000 | 0.720 | 0.030 | 3     | Cylindrical | ■              |
| HP4931-.750E2R060.0Z3A  | AXT   | 10318853    | 2            | E          | ■              | ■   | 0.750 | 0.750 | 1.250 | 3.750 | 2.000 | 0.720 | 0.060 | 3     | Cylindrical | ■              |
| HP4931-.750E2R120.0Z3A  | AXT   | 10318854    | 2            | E          | ■              | ■   | 0.750 | 0.750 | 1.250 | 3.750 | 2.000 | 0.720 | 0.090 | 3     | Cylindrical | ■              |
| HP4931-1.000E2R020.0Z3A | AXT   | 10318861    | 2            | E          | ■              | ■   | 1.000 | 1.000 | 1.625 | 4.375 | 2.250 | 0.960 | 0.020 | 3     | Cylindrical | ■              |
| HP4931-1.000E2R030.0Z3A | AXT   | 10318862    | 2            | E          | ■              | ■   | 1.000 | 1.000 | 1.625 | 4.375 | 2.250 | 0.960 | 0.030 | 3     | Cylindrical | ■              |
| HP4931-1.000E2R060.0Z3A | AXT   | 10318863    | 2            | E          | ■              | ■   | 1.000 | 1.000 | 1.625 | 4.375 | 2.250 | 0.960 | 0.060 | 3     | Cylindrical | ■              |
| HP4931-1.000E2R090.0Z3A | AXT   | 10318864    | 2            | E          | ■              | ■   | 1.000 | 1.000 | 1.625 | 4.375 | 2.250 | 0.960 | 0.090 | 3     | Cylindrical | ■              |
| HP4931-1.000E2R120.0Z3A | AXT   | 10318865    | 2            | E          | ■              | ■   | 1.000 | 1.000 | 1.625 | 4.375 | 2.250 | 0.960 | 0.120 | 3     | Cylindrical | ■              |
| HP4931-.500E3R020.0Z3A  | AXT   | 10318836    | 3            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 3.250 | 1.625 | 0.470 | 0.020 | 3     | Cylindrical | ■              |
| HP4931-.500E3R030.0Z3A  | AXT   | 10318837    | 3            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 3.250 | 1.625 | 0.470 | 0.030 | 3     | Cylindrical | ■              |
| HP4931-.500E3R060.0Z3A  | AXT   | 10318838    | 3            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 3.250 | 1.625 | 0.470 | 0.060 | 3     | Cylindrical | ■              |
| HP4931-.500E3R090.0Z3A  | AXT   | 10318839    | 3            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 3.250 | 1.625 | 0.470 | 0.090 | 3     | Cylindrical | ■              |
| HP4931-.500E3R120.0Z3A  | AXT   | 10318840    | 3            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 3.250 | 1.625 | 0.470 | 0.120 | 3     | Cylindrical | ■              |
| HP4931-.625E3R020.0Z3A  | AXT   | 10318841    | 3            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 3.750 | 2.031 | 0.600 | 0.020 | 3     | Cylindrical | ■              |
| HP4931-.625E3R030.0Z3A  | AXT   | 10318842    | 3            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 3.750 | 2.031 | 0.600 | 0.030 | 3     | Cylindrical | ■              |
| HP4931-.625E3R060.0Z3A  | AXT   | 10318843    | 3            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 3.750 | 2.031 | 0.600 | 0.060 | 3     | Cylindrical | ■              |
| HP4931-.625E3R090.0Z3A  | AXT   | 10318844    | 3            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 3.750 | 2.031 | 0.600 | 0.090 | 3     | Cylindrical | ■              |
| HP4931-.625E3R120.0Z3A  | AXT   | 10318845    | 3            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 3.750 | 2.031 | 0.600 | 0.120 | 3     | Cylindrical | ■              |
| HP4931-.750E3R020.0Z3A  | AXT   | 10318856    | 3            | E          | ■              | ■   | 0.750 | 0.750 | 1.250 | 4.375 | 2.625 | 0.720 | 0.020 | 3     | Cylindrical | ■              |
| HP4931-.750E3R030.0Z3A  | AXT   | 10318857    | 3            | E          | ■              | ■   | 0.750 | 0.750 | 1.250 | 4.375 | 2.625 | 0.720 | 0.030 | 3     | Cylindrical | ■              |
| HP4931-.750E3R060.0Z3A  | AXT   | 10318858    | 3            | E          | ■              | ■   | 0.750 | 0.750 | 1.250 | 4.375 | 2.625 | 0.720 | 0.060 | 3     | Cylindrical | ■              |
| HP4931-.750E3R090.0Z3A  | AXT   | 10318859    | 3            | E          | ■              | ■   | 0.750 | 0.750 | 1.250 | 4.375 | 2.625 | 0.720 | 0.090 | 3     | Cylindrical | ■              |
| HP4931-.750E3R120.0Z3A  | AXT   | 10318860    | 3            | E          | ■              | ■   | 0.750 | 0.750 | 1.250 | 4.375 | 2.625 | 0.720 | 0.120 | 3     | Cylindrical | ■              |
| HP4931-1.000E3R020.0Z3A | AXT   | 10318866    | 3            | E          | ■              | ■   | 1.000 | 1.000 | 1.375 | 5.125 | 3.125 | 0.960 | 0.020 | 3     | Cylindrical | ■              |
| HP4931-1.000E3R030.0Z3A | AXT   | 10318867    | 3            | E          | ■              | ■   | 1.000 | 1.000 | 1.375 | 5.125 | 3.125 | 0.960 | 0.030 | 3     | Cylindrical | ■              |
| HP4931-1.000E3R060.0Z3A | AXT   | 10318868    | 3            | E          | ■              | ■   | 1.000 | 1.000 | 1.375 | 5.125 | 3.125 | 0.960 | 0.060 | 3     | Cylindrical | ■              |
| HP4931-1.000E3R090.0Z3A | AXT   | 10318869    | 3            | E          | ■              | ■   | 1.000 | 1.000 | 1.375 | 5.125 | 3.125 | 0.960 | 0.090 | 3     | Cylindrical | ■              |
| HP4931-1.000E3R120.0Z3A | AXT   | 10318870    | 3            | E          | ■              | ■   | 1.000 | 1.000 | 1.375 | 5.125 | 3.125 | 0.960 | 0.120 | 3     | Cylindrical | ■              |
| HP4931-.625E4R020.0Z3A  | AXT   | 10318846    | 4            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 4.375 | 2.656 | 0.600 | 0.020 | 3     | Cylindrical | ■              |
| HP4931-.625E4R030.0Z3A  | AXT   | 10318847    | 4            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 4.375 | 2.656 | 0.600 | 0.030 | 3     | Cylindrical | ■              |
| HP4931-.625E4R060.0Z3A  | AXT   | 10318848    | 4            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 4.375 | 2.656 | 0.600 | 0.060 | 3     | Cylindrical | ■              |
| HP4931-.625E4R090.0Z3A  | AXT   | 10318849    | 4            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 4.375 | 2.656 | 0.600 | 0.090 | 3     | Cylindrical | ■              |
| HP4931-.625E4R120.0Z3A  | AXT   | 10318850    | 4            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 4.375 | 2.656 | 0.600 | 0.120 | 3     | Cylindrical | ■              |

■ Stocked standard.

## Cutting data – HP4931 Slot milling

| SMG |  | $a_p/DC$   | $f_z$          |                |                |                | $v_c$                                   |
|-----|-----------------------------------------------------------------------------------|------------|----------------|----------------|----------------|----------------|-----------------------------------------|
|     |                                                                                   |            | 12             | 16             | 20             | 25             |                                         |
| N1  | E/M/A                                                                             | 1,0<br>1.0 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,18<br>0.0070 | 0,22<br>0.0085 | 1500 (800 — 2400)<br>4925 (2700 — 7800) |
| N2  | E/M/A                                                                             | 1,0<br>1.0 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,18<br>0.0070 | 0,22<br>0.0085 | 960 (520 — 1600)<br>3150 (1800 — 5200)  |
| N3  | E/M/A                                                                             | 1,0<br>1.0 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,18<br>0.0070 | 0,22<br>0.0085 | 1400 (750 — 2300)<br>4600 (2500 — 7500) |

## Cutting data – HP4931 Side milling roughing

| SMG |  | $a_e/DC$     | $a_p/DC$   | $f_z$          |                |                |               | $v_c$                                   |
|-----|-----------------------------------------------------------------------------------|--------------|------------|----------------|----------------|----------------|---------------|-----------------------------------------|
|     |                                                                                   |              |            | 12             | 16             | 20             | 25            |                                         |
| N1  | E/M/A                                                                             | 0,40<br>0.40 | 1,5<br>1.5 | 0,12<br>0.0048 | 0,16<br>0.0065 | 0,20<br>0.0080 | 0,25<br>0.010 | 1825 (980 — 3000)<br>6000 (3300 — 9800) |
| N2  | E/M/A                                                                             | 0,40<br>0.40 | 1,5<br>1.5 | 0,12<br>0.0048 | 0,16<br>0.0065 | 0,20<br>0.0080 | 0,25<br>0.010 | 1175 (630 — 1900)<br>3850 (2100 — 6200) |
| N3  | E/M/A                                                                             | 0,40<br>0.40 | 1,5<br>1.5 | 0,12<br>0.0048 | 0,16<br>0.0065 | 0,20<br>0.0080 | 0,25<br>0.010 | 1700 (910 — 2800)<br>5575 (3000 — 9100) |

## Cutting data – HP4931 Side milling roughing – Inch

| SMG |  | $a_e/DC$     | $a_p/DC$   | $f_z$          |                |                |               | $v_c$                                   |
|-----|------------------------------------------------------------------------------------|--------------|------------|----------------|----------------|----------------|---------------|-----------------------------------------|
|     |                                                                                    |              |            | 1/2            | 5/8            | 3/4            | 1             |                                         |
| N1  | E/M/A                                                                              | 0,40<br>0.40 | 1,5<br>1.5 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,19<br>0.0075 | 0,25<br>0.010 | 1850 (990 — 3000)<br>6075 (3300 — 9800) |
| N2  | E/M/A                                                                              | 0,40<br>0.40 | 1,5<br>1.5 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,19<br>0.0075 | 0,25<br>0.010 | 1200 (640 — 1900)<br>3925 (2100 — 6200) |
| N3  | E/M/A                                                                              | 0,40<br>0.40 | 1,5<br>1.5 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,19<br>0.0075 | 0,25<br>0.010 | 1725 (930 — 2800)<br>5650 (3100 — 9100) |

## Cutting data – HP4931 Slot milling – Inch

| SMG |  | $a_p/DC$   | $f_z$          |                |                |                | $v_c$                                   |
|-----|-------------------------------------------------------------------------------------|------------|----------------|----------------|----------------|----------------|-----------------------------------------|
|     |                                                                                     |            | 1/2            | 5/8            | 3/4            | 1              |                                         |
| N1  | E/M/A                                                                               | 1,0<br>1.0 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 1525 (810 — 2500)<br>5000 (2700 — 8200) |
| N2  | E/M/A                                                                               | 1,0<br>1.0 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 980 (530 — 1600)<br>3225 (1800 — 5200)  |
| N3  | E/M/A                                                                               | 1,0<br>1.0 | 0,11<br>0.0044 | 0,14<br>0.0055 | 0,17<br>0.0065 | 0,22<br>0.0085 | 1425 (760 — 2300)<br>4675 (2500 — 7500) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

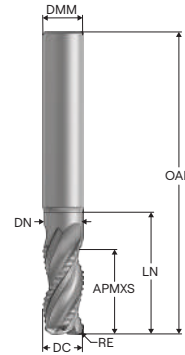
Graphite

X-Heads

Minimaster

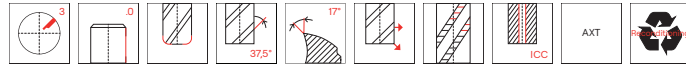
## S4931

General purpose – Aluminium – Square – 3 Flutes – Cylindrical – Corner radius



E

- Tolerances:
- DMM=h5
- DC -0,02/-0,1 mm
- RE=+/-0,05 mm
- Regrind possible if DC is  $\geq \varnothing 12$

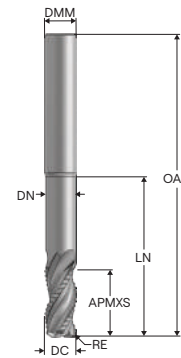


| Designation          | Grade | Item number | Length index | Tool shape | Chip splitters | CSP | DC   | DMM  | APMXS | OAL   | LN    | DN   | RE  | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|----------------|-----|------|------|-------|-------|-------|------|-----|-------|-------------|----------------|
| S4931-060E3R050.0Z3A | AXT   | 10318871    | 3            | E          | ■              | ■   | 6,0  | 6,0  | 13,0  | 60,0  | 19,5  | 5,7  | 0,5 | 3     | Cylindrical | ■              |
| S4931-080E3R050.0Z3A | AXT   | 10318873    | 3            | E          | ■              | ■   | 8,0  | 8,0  | 18,0  | 65,0  | 26,0  | 7,6  | 0,5 | 3     | Cylindrical | ■              |
| S4931-100E3R050.0Z3A | AXT   | 10318876    | 3            | E          | ■              | ■   | 10,0 | 10,0 | 22,0  | 75,0  | 32,5  | 9,5  | 0,5 | 3     | Cylindrical | ■              |
| S4931-100E3R100.0Z3A | AXT   | 10318879    | 3            | E          | ■              | ■   | 10,0 | 10,0 | 22,0  | 75,0  | 32,5  | 9,5  | 1,0 | 3     | Cylindrical | ■              |
| S4931-120E3R050.0Z3A | AXT   | 10318882    | 3            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 90,0  | 39,0  | 11,4 | 0,5 | 3     | Cylindrical | ■              |
| S4931-120E3R100.0Z3A | AXT   | 10318885    | 3            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 90,0  | 39,0  | 11,4 | 1,0 | 3     | Cylindrical | ■              |
| S4931-120E3R200.0Z3A | AXT   | 10318888    | 3            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 90,0  | 39,0  | 11,4 | 2,0 | 3     | Cylindrical | ■              |
| S4931-120E3R300.0Z3A | AXT   | 10318891    | 3            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 90,0  | 39,0  | 11,4 | 3,0 | 3     | Cylindrical | ■              |
| S4931-160E3R050.0Z3A | AXT   | 10318894    | 3            | E          | ■              | ■   | 16,0 | 16,0 | 35,0  | 105,0 | 52,0  | 15,2 | 0,5 | 3     | Cylindrical | ■              |
| S4931-160E3R100.0Z3A | AXT   | 10318897    | 3            | E          | ■              | ■   | 16,0 | 16,0 | 35,0  | 105,0 | 52,0  | 15,2 | 1,0 | 3     | Cylindrical | ■              |
| S4931-160E3R200.0Z3A | AXT   | 10318900    | 3            | E          | ■              | ■   | 16,0 | 16,0 | 35,0  | 105,0 | 52,0  | 15,2 | 2,0 | 3     | Cylindrical | ■              |
| S4931-160E3R300.0Z3A | AXT   | 10318903    | 3            | E          | ■              | ■   | 16,0 | 16,0 | 35,0  | 105,0 | 52,0  | 15,2 | 3,0 | 3     | Cylindrical | ■              |
| S4931-060E4R050.0Z3A | AXT   | 10318872    | 4            | E          | ■              | ■   | 6,0  | 6,0  | 13,0  | 70,0  | 25,5  | 5,7  | 0,5 | 3     | Cylindrical | ■              |
| S4931-080E4R050.0Z3A | AXT   | 10318874    | 4            | E          | ■              | ■   | 8,0  | 8,0  | 18,0  | 80,0  | 34,0  | 7,6  | 0,5 | 3     | Cylindrical | ■              |
| S4931-100E4R050.0Z3A | AXT   | 10318877    | 4            | E          | ■              | ■   | 10,0 | 10,0 | 22,0  | 95,0  | 42,5  | 9,5  | 0,5 | 3     | Cylindrical | ■              |
| S4931-100E4R100.0Z3A | AXT   | 10318880    | 4            | E          | ■              | ■   | 10,0 | 10,0 | 22,0  | 95,0  | 42,5  | 9,5  | 1,0 | 3     | Cylindrical | ■              |
| S4931-120E4R050.0Z3A | AXT   | 10318883    | 4            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 110,0 | 51,0  | 11,4 | 0,5 | 3     | Cylindrical | ■              |
| S4931-120E4R100.0Z3A | AXT   | 10318886    | 4            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 110,0 | 51,0  | 11,4 | 1,0 | 3     | Cylindrical | ■              |
| S4931-120E4R200.0Z3A | AXT   | 10318889    | 4            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 110,0 | 51,0  | 11,4 | 2,0 | 3     | Cylindrical | ■              |
| S4931-120E4R300.0Z3A | AXT   | 10318892    | 4            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 110,0 | 51,0  | 11,4 | 3,0 | 3     | Cylindrical | ■              |
| S4931-160E4R050.0Z3A | AXT   | 10318895    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 35,0  | 135,0 | 65,0  | 15,2 | 0,5 | 3     | Cylindrical | ■              |
| S4931-160E4R100.0Z3A | AXT   | 10318898    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 35,0  | 135,0 | 65,0  | 15,2 | 1,0 | 3     | Cylindrical | ■              |
| S4931-160E4R200.0Z3A | AXT   | 10318901    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 35,0  | 135,0 | 65,0  | 15,2 | 2,0 | 3     | Cylindrical | ■              |
| S4931-160E4R300.0Z3A | AXT   | 10318904    | 4            | E          | ■              | ■   | 16,0 | 16,0 | 35,0  | 135,0 | 65,0  | 15,2 | 3,0 | 3     | Cylindrical | ■              |
| S4931-200E4R200.0Z3A | AXT   | 10336122    | 4            | E          | ■              | ■   | 20,0 | 20,0 | 42,0  | 135,0 | 81,0  | 19,0 | 2,0 | 3     | Cylindrical | ■              |
| S4931-200E4R300.0Z3A | AXT   | 10336123    | 4            | E          | ■              | ■   | 20,0 | 20,0 | 42,0  | 135,0 | 81,0  | 19,0 | 3,0 | 3     | Cylindrical | ■              |
| S4931-250E4R200.0Z3A | AXT   | 10336124    | 4            | E          | ■              | ■   | 25,0 | 25,0 | 52,0  | 160,0 | 101,0 | 23,8 | 2,0 | 3     | Cylindrical | ■              |
| S4931-250E4R300.0Z3A | AXT   | 10336125    | 4            | E          | ■              | ■   | 25,0 | 25,0 | 52,0  | 160,0 | 101,0 | 23,8 | 3,0 | 3     | Cylindrical | ■              |

■ Stocked standard.

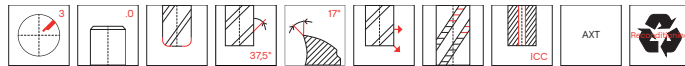
S4931

General purpose – Aluminium – Square – 3 Flutes – Cylindrical – Corner radius



E

- Tolerances:
- DMM=h5
- DC -0,02/-0,1 mm
- RE=+/-0,05 mm
- Regrind possible if DC is  $\geq \varnothing 12$



| Designation          | Grade | Item number | Length index | Tool shape | Chip splitters | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|----------------------|-------|-------------|--------------|------------|----------------|-----|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
|                      |       |             |              |            |                |     | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |             |                |
| S4931-080E5R050.0Z3A | AXT   | 10318875    | 5            | E          | ■              | ■   | 8,0  | 8,0  | 18,0  | 80,0  | 42,0 | 7,6  | 0,5 | 3     | Cylindrical | ■              |
| S4931-100E5R050.0Z3A | AXT   | 10318878    | 5            | E          | ■              | ■   | 10,0 | 10,0 | 22,0  | 95,0  | 52,5 | 9,5  | 0,5 | 3     | Cylindrical | ■              |
| S4931-100E5R100.0Z3A | AXT   | 10318881    | 5            | E          | ■              | ■   | 10,0 | 10,0 | 22,0  | 95,0  | 52,5 | 9,5  | 1,0 | 3     | Cylindrical | ■              |
| S4931-120E5R050.0Z3A | AXT   | 10318884    | 5            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 110,0 | 63,0 | 11,4 | 0,5 | 3     | Cylindrical | ■              |
| S4931-120E5R100.0Z3A | AXT   | 10318887    | 5            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 110,0 | 63,0 | 11,4 | 1,0 | 3     | Cylindrical | ■              |
| S4931-120E5R200.0Z3A | AXT   | 10318890    | 5            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 110,0 | 63,0 | 11,4 | 2,0 | 3     | Cylindrical | ■              |
| S4931-120E5R300.0Z3A | AXT   | 10318893    | 5            | E          | ■              | ■   | 12,0 | 12,0 | 26,0  | 110,0 | 63,0 | 11,4 | 3,0 | 3     | Cylindrical | ■              |
| S4931-160E5R050.0Z3A | AXT   | 10318896    | 5            | E          | ■              | ■   | 16,0 | 16,0 | 35,0  | 135,0 | 82,0 | 15,2 | 0,5 | 3     | Cylindrical | ■              |
| S4931-160E5R100.0Z3A | AXT   | 10318899    | 5            | E          | ■              | ■   | 16,0 | 16,0 | 35,0  | 135,0 | 82,0 | 15,2 | 1,0 | 3     | Cylindrical | ■              |
| S4931-160E5R200.0Z3A | AXT   | 10318902    | 5            | E          | ■              | ■   | 16,0 | 16,0 | 35,0  | 135,0 | 82,0 | 15,2 | 2,0 | 3     | Cylindrical | ■              |
| S4931-160E5R300.0Z3A | AXT   | 10318905    | 5            | E          | ■              | ■   | 16,0 | 16,0 | 35,0  | 135,0 | 82,0 | 15,2 | 3,0 | 3     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

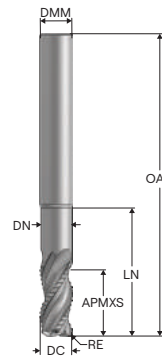
Graphite

X-Heads

Minimaster

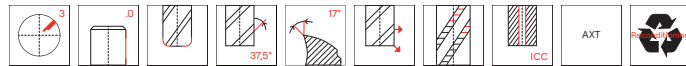
## S4931

General purpose – Aluminium – Square – 3 Flutes – Cylindrical – Corner radius – Inch



E

—Tolerances:  
—DMM=h5  
—DC -0.001"/-0.004"  
—RE=+/-0.002"  
—Regrind possible if DC is  $\geq \varnothing 500$



| Designation           | Grade | Item number | Length index | Tool shape | Chip splitters | CSP | DC    | DMM   | APMXS | OAL   | LN    | DN    | RE    | PCEDC | Shank       | Stock standard |
|-----------------------|-------|-------------|--------------|------------|----------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------------|----------------|
| S4931-.250E3R030.0Z3A | AXT   | 10318906    | 3            | E          | ■              | ■   | inch  | inch  | inch  | inch  | inch  | inch  | inch  | 3     | Cylindrical | ■              |
| S4931-.313E3R030.0Z3A | AXT   | 10318908    | 3            | E          | ■              | ■   | 0.313 | 0.313 | 0.625 | 2.500 | 1.000 | 0.297 | 0.030 | 3     | Cylindrical | ■              |
| S4931-.375E3R030.0Z3A | AXT   | 10318910    | 3            | E          | ■              | ■   | 0.375 | 0.375 | 0.750 | 3.000 | 1.250 | 0.355 | 0.030 | 3     | Cylindrical | ■              |
| S4931-.375E3R060.0Z3A | AXT   | 10318912    | 3            | E          | ■              | ■   | 0.375 | 0.375 | 0.750 | 3.000 | 1.250 | 0.355 | 0.060 | 3     | Cylindrical | ■              |
| S4931-.500E3R030.0Z3A | AXT   | 10318914    | 3            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 3.500 | 1.500 | 0.473 | 0.030 | 3     | Cylindrical | ■              |
| S4931-.500E3R060.0Z3A | AXT   | 10318917    | 3            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 3.500 | 1.500 | 0.473 | 0.060 | 3     | Cylindrical | ■              |
| S4931-.500E3R090.0Z3A | AXT   | 10318920    | 3            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 3.500 | 1.500 | 0.473 | 0.090 | 3     | Cylindrical | ■              |
| S4931-.500E3R120.0Z3A | AXT   | 10318923    | 3            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 3.500 | 1.500 | 0.473 | 0.120 | 3     | Cylindrical | ■              |
| S4931-.625E3R030.0Z3A | AXT   | 10318926    | 3            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 4.000 | 2.000 | 0.598 | 0.030 | 3     | Cylindrical | ■              |
| S4931-.625E3R060.0Z3A | AXT   | 10318928    | 3            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 4.000 | 2.000 | 0.598 | 0.060 | 3     | Cylindrical | ■              |
| S4931-.625E3R090.0Z3A | AXT   | 10318930    | 3            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 4.000 | 2.000 | 0.598 | 0.090 | 3     | Cylindrical | ■              |
| S4931-.625E3R120.0Z3A | AXT   | 10318932    | 3            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 4.000 | 2.000 | 0.598 | 0.120 | 3     | Cylindrical | ■              |
| S4931-.250E4R030.0Z3A | AXT   | 10318907    | 4            | E          | ■              | ■   | 0.250 | 0.250 | 0.500 | 2.500 | 1.000 | 0.234 | 0.030 | 3     | Cylindrical | ■              |
| S4931-.313E4R030.0Z3A | AXT   | 10318909    | 4            | E          | ■              | ■   | 0.313 | 0.313 | 0.625 | 3.000 | 1.250 | 0.297 | 0.030 | 3     | Cylindrical | ■              |
| S4931-.375E4R030.0Z3A | AXT   | 10318911    | 4            | E          | ■              | ■   | 0.375 | 0.375 | 0.750 | 3.250 | 1.625 | 0.355 | 0.030 | 3     | Cylindrical | ■              |
| S4931-.375E4R060.0Z3A | AXT   | 10318913    | 4            | E          | ■              | ■   | 0.375 | 0.375 | 0.750 | 3.250 | 1.625 | 0.355 | 0.060 | 3     | Cylindrical | ■              |
| S4931-.500E4R030.0Z3A | AXT   | 10318915    | 4            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 4.000 | 2.000 | 0.473 | 0.030 | 3     | Cylindrical | ■              |
| S4931-.500E4R060.0Z3A | AXT   | 10318918    | 4            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 4.000 | 2.000 | 0.473 | 0.060 | 3     | Cylindrical | ■              |
| S4931-.500E4R090.0Z3A | AXT   | 10318921    | 4            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 4.000 | 2.000 | 0.473 | 0.090 | 3     | Cylindrical | ■              |
| S4931-.500E4R120.0Z3A | AXT   | 10318924    | 4            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 4.000 | 2.000 | 0.473 | 0.120 | 3     | Cylindrical | ■              |
| S4931-.625E4R030.0Z3A | AXT   | 10318927    | 4            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 4.750 | 2.625 | 0.598 | 0.030 | 3     | Cylindrical | ■              |
| S4931-.625E4R060.0Z3A | AXT   | 10318929    | 4            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 4.750 | 2.625 | 0.598 | 0.060 | 3     | Cylindrical | ■              |
| S4931-.625E4R090.0Z3A | AXT   | 10318931    | 4            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 4.750 | 2.625 | 0.598 | 0.090 | 3     | Cylindrical | ■              |
| S4931-.625E4R120.0Z3A | AXT   | 10318933    | 4            | E          | ■              | ■   | 0.625 | 0.625 | 1.250 | 4.750 | 2.625 | 0.598 | 0.120 | 3     | Cylindrical | ■              |
| S4931-.500E5R030.0Z3A | AXT   | 10318916    | 5            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 4.500 | 2.500 | 0.473 | 0.030 | 3     | Cylindrical | ■              |
| S4931-.500E5R060.0Z3A | AXT   | 10318919    | 5            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 4.500 | 2.500 | 0.473 | 0.060 | 3     | Cylindrical | ■              |
| S4931-.500E5R090.0Z3A | AXT   | 10318922    | 5            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 4.500 | 2.500 | 0.473 | 0.090 | 3     | Cylindrical | ■              |
| S4931-.500E5R120.0Z3A | AXT   | 10318925    | 5            | E          | ■              | ■   | 0.500 | 0.500 | 1.000 | 4.500 | 2.500 | 0.473 | 0.120 | 3     | Cylindrical | ■              |

■ Stocked standard.

### Cutting data – S4931 Side milling roughing

| SMG |  | $a_e/DC$     | $a_p/DC$   | $f_z$           |                 |                |                |                |                |                | $v_c$                                  |
|-----|-----------------------------------------------------------------------------------|--------------|------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------------------------------|
|     |                                                                                   |              |            | 6               | 8               | 10             | 12             | 16             | 20             | 25             |                                        |
| N1  | E                                                                                 | 0,40<br>0.40 | 1,5<br>1.5 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040 | 0,12<br>0.0048 | 0,15<br>0.0060 | 0,17<br>0.0065 | 0,20<br>0.0080 | 940 (360 — 1700)<br>3075 (1200 — 5500) |
| N2  | E                                                                                 | 0,40<br>0.40 | 1,5<br>1.5 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040 | 0,12<br>0.0048 | 0,15<br>0.0060 | 0,17<br>0.0065 | 0,20<br>0.0080 | 610 (230 — 1100)<br>2000 (760 — 3600)  |
| N3  | E                                                                                 | 0,40<br>0.40 | 1,5<br>1.5 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040 | 0,12<br>0.0048 | 0,15<br>0.0060 | 0,17<br>0.0065 | 0,20<br>0.0080 | 940 (360 — 1700)<br>3075 (1200 — 5500) |

### Cutting data – S4931 Slot milling

| SMG |  | $a_p/DC$   | $f_z$           |                 |                 |                 |                |                |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |            | 6               | 8               | 10              | 12              | 16             | 20             | 25             |                                       |
| N1  | E                                                                                 | 1,0<br>1.0 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,19<br>0.0075 | 800 (300 — 1400)<br>2625 (990 — 4500) |
| N2  | E                                                                                 | 1,0<br>1.0 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,19<br>0.0075 | 510 (200 — 960)<br>1675 (660 — 3100)  |
| N3  | E                                                                                 | 1,0<br>1.0 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,19<br>0.0075 | 800 (300 — 1400)<br>2625 (990 — 4500) |

### Cutting data – S4931 Side milling roughing – Inch

| SMG |  | $a_e/DC$     | $a_p/DC$   | $f_z$           |                 |                 |                |                | $v_c$                                  |
|-----|------------------------------------------------------------------------------------|--------------|------------|-----------------|-----------------|-----------------|----------------|----------------|----------------------------------------|
|     |                                                                                    |              |            | 1/4             | 5/16            | 3/8             | 1/2            | 5/8            |                                        |
| N1  | E                                                                                  | 0,40<br>0.40 | 1,4<br>1.4 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050 | 0,15<br>0.0060 | 950 (360 — 1700)<br>3125 (1200 — 5500) |
| N2  | E                                                                                  | 0,40<br>0.40 | 1,4<br>1.4 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050 | 0,15<br>0.0060 | 610 (240 — 1100)<br>2000 (790 — 3600)  |
| N3  | E                                                                                  | 0,40<br>0.40 | 1,4<br>1.4 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050 | 0,15<br>0.0060 | 950 (360 — 1700)<br>3125 (1200 — 5500) |

### Cutting data – S4931 Slot milling – Inch

| SMG |  | $a_p/DC$   | $f_z$           |                 |                 |                |                | $v_c$                                  |
|-----|-------------------------------------------------------------------------------------|------------|-----------------|-----------------|-----------------|----------------|----------------|----------------------------------------|
|     |                                                                                     |            | 1/4             | 5/16            | 3/8             | 1/2            | 5/8            |                                        |
| N1  | E                                                                                   | 1,0<br>1.0 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,10<br>0.0040 | 0,13<br>0.0050 | 810 (310 — 1500)<br>2650 (1100 — 4900) |
| N2  | E                                                                                   | 1,0<br>1.0 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,10<br>0.0040 | 0,13<br>0.0050 | 520 (200 — 970)<br>1700 (660 — 3100)   |
| N3  | E                                                                                   | 1,0<br>1.0 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,10<br>0.0040 | 0,13<br>0.0050 | 810 (310 — 1500)<br>2650 (1100 — 4900) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
iron

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfpr

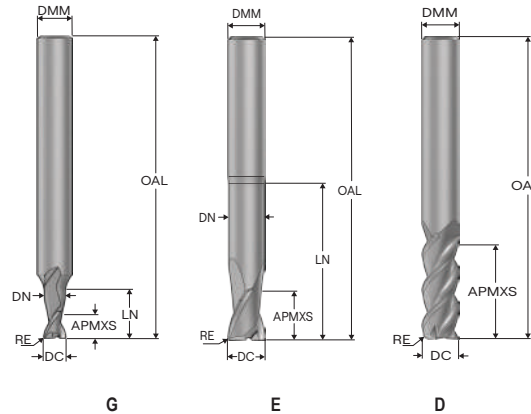
Graphite

X-Heads

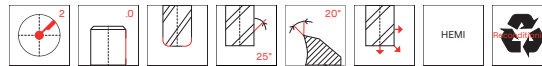
Minimaster

JH40

High performance – Aluminium – Square – 2 Flutes – Cylindrical – Corner radius



—Tolerances:  
—DMM=h5  
—DC=-0,02/-0,04 mm  
—RE= ±0,1 mm  
—Regrind possible if DC is ≥Ø6



| Designation | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | CA° | PCEDC | Shank       | Stock standard |
|-------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-----|-------|-------------|----------------|
| 40K060-HEMI | 00022089    | 1            | D          | 6,0  | 6,0  | 13,0  | 50,0  | —    | —    | 0,1 | —   | 2     | Cylindrical | ■              |
| 40K080-HEMI | 00022090    | 1            | D          | 8,0  | 8,0  | 13,0  | 50,0  | —    | —    | 0,1 | —   | 2     | Cylindrical | ■              |
| 40K100-HEMI | 00022091    | 1            | D          | 10,0 | 10,0 | 16,0  | 50,0  | —    | —    | 0,1 | —   | 2     | Cylindrical | ■              |
| 40K120-HEMI | 00022092    | 1            | D          | 12,0 | 12,0 | 16,0  | 65,0  | —    | —    | 0,1 | —   | 2     | Cylindrical | ■              |
| 40020-HEMI  | 00022093    | 2            | G          | 2,0  | 3,0  | 3,0   | 40,0  | 6,0  | 1,9  | 0,1 | 3,5 | 2     | Cylindrical | ■              |
| 40030-HEMI  | 00022094    | 2            | E          | 3,0  | 3,0  | 4,0   | 40,0  | 8,0  | 2,9  | 0,1 | —   | 2     | Cylindrical | ■              |
| 40040-HEMI  | 00022095    | 2            | E          | 4,0  | 4,0  | 5,0   | 50,0  | 12,0 | 3,8  | 0,1 | —   | 2     | Cylindrical | ■              |
| 40050-HEMI  | 00022120    | 2            | E          | 5,0  | 5,0  | 8,0   | 50,0  | 14,0 | 4,8  | 0,1 | —   | 2     | Cylindrical | ■              |
| 40060-HEMI  | 00022250    | 2            | E          | 6,0  | 6,0  | 8,0   | 65,0  | 18,0 | 5,7  | 0,1 | —   | 2     | Cylindrical | ■              |
| 40080-HEMI  | 00022580    | 2            | E          | 8,0  | 8,0  | 10,0  | 70,0  | 22,0 | 7,7  | 0,1 | —   | 2     | Cylindrical | ■              |
| 40100-HEMI  | 00022663    | 2            | E          | 10,0 | 10,0 | 14,0  | 80,0  | 28,0 | 9,7  | 0,1 | —   | 2     | Cylindrical | ■              |
| 40120-HEMI  | 00022667    | 2            | E          | 12,0 | 12,0 | 16,0  | 90,0  | 35,0 | 11,5 | 0,1 | —   | 2     | Cylindrical | ■              |
| 40160-HEMI  | 00022668    | 2            | E          | 16,0 | 16,0 | 20,0  | 90,0  | 40,0 | 15,5 | 0,1 | —   | 2     | Cylindrical | ■              |
| 40200-HEMI  | 00022701    | 2            | E          | 20,0 | 20,0 | 25,0  | 100,0 | 50,0 | 19,5 | 0,1 | —   | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and CFRP

Graphite

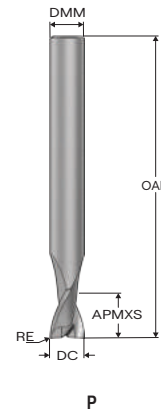
X-Heads

Minimaster



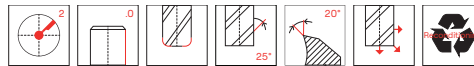
## JH40

High performance – Aluminium – Square – 2 Flutes – Cylindrical – Corner radius



P

- Tolerances:
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,1 mm
- Regrind possible if DC is ≥Ø6



| Designation | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank       | Stock standard |
|-------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-------------|----------------|
|             |             |              |            | mm   | mm   | mm    | mm    | mm  |       |             |                |
| 40020-RS    | 02479642    | 2            | P          | 2,0  | 1,9  | 3,0   | 40,0  | 0,1 | 2     | Cylindrical | ■              |
| 40030-RS    | 02479643    | 2            | P          | 3,0  | 2,9  | 4,0   | 60,0  | 0,1 | 2     | Cylindrical | ■              |
| 40040-RS    | 02479644    | 2            | P          | 4,0  | 3,8  | 5,0   | 60,0  | 0,1 | 2     | Cylindrical | ■              |
| 40050-RS    | 02479645    | 2            | P          | 5,0  | 4,8  | 8,0   | 70,0  | 0,1 | 2     | Cylindrical | ■              |
| 40060-RS    | 02479646    | 2            | P          | 6,0  | 5,8  | 8,0   | 65,0  | 0,1 | 2     | Cylindrical | ■              |
| 40080-RS    | 02479647    | 2            | P          | 8,0  | 7,8  | 10,0  | 70,0  | 0,1 | 2     | Cylindrical | ■              |
| 40100-RS    | 02479648    | 2            | P          | 10,0 | 9,7  | 14,0  | 100,0 | 0,1 | 2     | Cylindrical | ■              |
| 40120-RS    | 02479649    | 2            | P          | 12,0 | 11,7 | 16,0  | 90,0  | 0,1 | 2     | Cylindrical | ■              |
| 40L060-RS   | 02479650    | 3            | P          | 6,0  | 5,8  | 8,0   | 100,0 | 0,1 | 2     | Cylindrical | ■              |
| 40L080-RS   | 02479651    | 3            | P          | 8,0  | 7,8  | 10,0  | 100,0 | 0,1 | 2     | Cylindrical | ■              |
| 40L120-RS   | 02479652    | 3            | P          | 12,0 | 11,7 | 16,0  | 125,0 | 0,1 | 2     | Cylindrical | ■              |
| 40L160-RS   | 02479653    | 3            | P          | 16,0 | 15,7 | 20,0  | 125,0 | 0,1 | 2     | Cylindrical | ■              |
| 40L200-RS   | 02479654    | 3            | P          | 20,0 | 19,7 | 25,0  | 125,0 | 0,1 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JH40 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 |                 |                |                |                |                |               | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|---------------|---------------------------------------|
|     |                                                                                   |                    |                    | 2               | 3               | 4               | 5               | 6               | 8              | 10             | 12             | 16             | 20            |                                       |
| N1  | E/M/A                                                                             | 0.400<br>0,400     | 1.2<br>1,2         | 0.030<br>0,0012 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.18<br>0,0070 | 0.22<br>0,0085 | 0.25<br>0,010 | 730 (610 — 840)<br>2400 (2100 — 2700) |
| N11 | E/M/A                                                                             | 0.400<br>0,400     | 1.0<br>1,0         | 0.030<br>0,0012 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.18<br>0,0070 | 0.22<br>0,0085 | 0.26<br>0,010 | 425 (320 — 520)<br>1400 (1100 — 1700) |
| TS1 | A                                                                                 | 0.400<br>0,400     | 1.2<br>1,2         | 0.030<br>0,0012 | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.18<br>0,0070 | 0.22<br>0,0085 | 0.25<br>0,010 | 730 (610 — 840)<br>2400 (2100 — 2700) |

## Cutting data – JH40 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>   |                  |                 |                 |                 |                 |                 |                 |                |                | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                    | 2                | 3                | 4               | 5               | 6               | 8               | 10              | 12              | 16             | 20             |                                       |
| N1  | E/M/A                                                                             | 0.60<br>0,60       | 0.026<br>0,0010  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.16<br>0,0065  | 0.20<br>0,0080 | 0.25<br>0,010  | 600 (510 — 700)<br>1975 (1700 — 2200) |
| N11 | E/M/A                                                                             | 0.40<br>0,40       | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.13<br>0,0050 | 0.16<br>0,0065 | 400 (310 — 500)<br>1300 (1100 — 1600) |
| TS1 | A                                                                                 | 1.0<br>1,0         | 0.026<br>0,0010  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.16<br>0,0065  | 0.20<br>0,0080 | 0.25<br>0,010  | 600 (510 — 700)<br>1975 (1700 — 2200) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

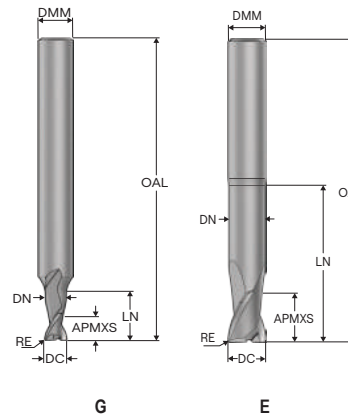
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

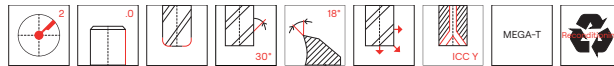
All cutting data are target values

JH421

High performance – Aluminium – Square – 2 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM=h5
- DC= -0,02/-0,04 mm
- RE= ±0,05 mm
- Regrind possible if DC is ≥ Ø6



| Designation         | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL  | LN   | DN   | RE   | CA° | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|-----|------|------|-------|------|------|------|------|-----|-------|-------------|----------------|
|                     |             |              |            |     | mm   | mm   | mm    | mm   | mm   | mm   | mm   |     |       |             |                |
| 421020R020Z2-MEGA-T | 02434927    | 2            | G          | —   | 2,0  | 3,0  | 3,0   | 40,0 | 8,0  | 1,8  | 0,2  | 3,0 | 2     | Cylindrical | ■              |
| 421030R020Z2-MEGA-T | 02434939    | 2            | E          | —   | 3,0  | 3,0  | 4,0   | 40,0 | 12,0 | 2,7  | 0,2  | —   | 2     | Cylindrical | ■              |
| 421040R020Z2-MEGA-T | 02434940    | 2            | G          | —   | 4,0  | 6,0  | 5,0   | 50,0 | 16,0 | 3,6  | 0,2  | 3,0 | 2     | Cylindrical | ■              |
| 421040R030Z2-MEGA-T | 02434941    | 2            | G          | —   | 4,0  | 6,0  | 5,0   | 50,0 | 16,0 | 3,6  | 0,3  | 3,0 | 2     | Cylindrical | ■              |
| 421050R100Z2-MEGA-T | 02434942    | 2            | G          | —   | 5,0  | 6,0  | 6,0   | 50,0 | 18,0 | 4,5  | 1,0  | 1,5 | 2     | Cylindrical | ■              |
| 421060R025Z2-MEGA-T | 02434946    | 2            | E          | —   | 6,0  | 6,0  | 8,0   | 50,0 | 20,0 | 5,4  | 0,25 | —   | 2     | Cylindrical | ■              |
| 421060R050Z2-MEGA-T | 02434947    | 2            | E          | —   | 6,0  | 6,0  | 8,0   | 50,0 | 20,0 | 5,4  | 0,5  | —   | 2     | Cylindrical | ■              |
| 421060R100Z2-MEGA-T | 02434958    | 2            | E          | —   | 6,0  | 6,0  | 8,0   | 50,0 | 20,0 | 5,4  | 1,0  | —   | 2     | Cylindrical | ■              |
| 421080R030Z2-MEGA-T | 02434960    | 2            | E          | —   | 8,0  | 8,0  | 10,0  | 65,0 | 30,0 | 7,2  | 0,3  | —   | 2     | Cylindrical | ■              |
| 421080R060Z2-MEGA-T | 02434964    | 2            | E          | —   | 8,0  | 8,0  | 10,0  | 65,0 | 30,0 | 7,2  | 0,6  | —   | 2     | Cylindrical | ■              |
| 421080R100Z2-MEGA-T | 02434967    | 2            | E          | —   | 8,0  | 8,0  | 10,0  | 65,0 | 30,0 | 7,2  | 1,0  | —   | 2     | Cylindrical | ■              |
| 421100R030Z2-MEGA-T | 02434968    | 2            | E          | —   | 10,0 | 10,0 | 12,0  | 80,0 | 36,0 | 9,0  | 0,3  | —   | 2     | Cylindrical | ■              |
| 421100R080Z2-MEGA-T | 02434970    | 2            | E          | —   | 10,0 | 10,0 | 12,0  | 80,0 | 36,0 | 9,0  | 0,8  | —   | 2     | Cylindrical | ■              |
| 421100R150Z2-MEGA-T | 02434971    | 2            | E          | —   | 10,0 | 10,0 | 12,0  | 80,0 | 36,0 | 9,0  | 1,5  | —   | 2     | Cylindrical | ■              |
| 421100R250Z2-MEGA-T | 02438614    | 2            | E          | —   | 10,0 | 10,0 | 12,0  | 80,0 | 36,0 | 9,0  | 2,5  | —   | 2     | Cylindrical | ■              |
| 421100R310Z2-MEGA-T | 02438683    | 2            | E          | —   | 10,0 | 10,0 | 12,0  | 80,0 | 36,0 | 9,0  | 3,1  | —   | 2     | Cylindrical | ■              |
| 421120R030Z2-MEGA-T | 02434983    | 2            | E          | —   | 12,0 | 12,0 | 14,0  | 90,0 | 40,0 | 11,0 | 0,3  | —   | 2     | Cylindrical | ■              |
| 421120R050Z2-MEGA-T | 02434986    | 2            | E          | —   | 12,0 | 12,0 | 14,0  | 90,0 | 40,0 | 11,0 | 0,5  | —   | 2     | Cylindrical | ■              |
| 421120R100Z2-MEGA-T | 02434988    | 2            | E          | —   | 12,0 | 12,0 | 14,0  | 90,0 | 40,0 | 11,0 | 1,0  | —   | 2     | Cylindrical | ■              |
| 421120R150Z2-MEGA-T | 02434989    | 2            | E          | —   | 12,0 | 12,0 | 14,0  | 90,0 | 40,0 | 11,0 | 1,5  | —   | 2     | Cylindrical | ■              |
| 421120R200Z2-MEGA-T | 02434990    | 2            | E          | —   | 12,0 | 12,0 | 14,0  | 90,0 | 40,0 | 11,0 | 2,0  | —   | 2     | Cylindrical | ■              |
| 421120R250Z2-MEGA-T | 02435008    | 2            | E          | ■   | 12,0 | 12,0 | 14,0  | 90,0 | 40,0 | 11,0 | 2,5  | —   | 2     | Cylindrical | ■              |
| 421120R250Z2-MEGA-T | 02435007    | 2            | E          | —   | 12,0 | 12,0 | 14,0  | 90,0 | 40,0 | 11,0 | 2,5  | —   | 2     | Cylindrical | ■              |
| 421120R310Z2-MEGA-T | 02435009    | 2            | E          | —   | 12,0 | 12,0 | 14,0  | 90,0 | 40,0 | 11,0 | 3,1  | —   | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

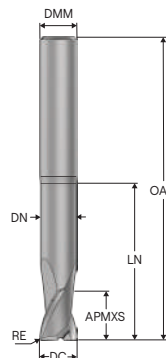
Graphite

X-Heads

Minimaster

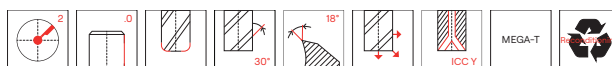
JH421

High performance – Aluminium – Square – 2 Flutes – Cylindrical – Corner radius



E

—Tolerances:  
—DMM=h5  
—DC= -0,02/-0,04 mm  
—RE= ±0,05 mm  
—Regrind possible



| Designation         | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|-----|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
| 421160R050Z2-MEGA-T | 02435010    | 2            | E          | —   | 16,0 | 16,0 | 18,0  | 100,0 | 45,0 | 14,5 | 0,5 | 2     | Cylindrical | ■              |
| 421160R200Z2-MEGA-T | 02435014    | 2            | E          | —   | 16,0 | 16,0 | 18,0  | 100,0 | 45,0 | 14,5 | 2,0 | 2     | Cylindrical | ■              |
| 421160R250Z2AMEGA-T | 02435020    | 2            | E          | ■   | 16,0 | 16,0 | 18,0  | 100,0 | 45,0 | 14,5 | 2,5 | 2     | Cylindrical | ■              |
| 421160R250Z2-MEGA-T | 02435012    | 2            | E          | —   | 16,0 | 16,0 | 18,0  | 100,0 | 45,0 | 14,5 | 2,5 | 2     | Cylindrical | ■              |
| 421160R310Z2-MEGA-T | 02435036    | 2            | E          | —   | 16,0 | 16,0 | 18,0  | 100,0 | 45,0 | 14,5 | 3,1 | 2     | Cylindrical | ■              |
| 421160R400Z2AMEGA-T | 02438684    | 2            | E          | ■   | 16,0 | 16,0 | 18,0  | 100,0 | 45,0 | 14,5 | 4,0 | 2     | Cylindrical | ■              |
| 421160R400Z2-MEGA-T | 02435039    | 2            | E          | —   | 16,0 | 16,0 | 18,0  | 100,0 | 45,0 | 14,5 | 4,0 | 2     | Cylindrical | ■              |
| 421200R160Z2-MEGA-T | 02435042    | 2            | E          | —   | 20,0 | 20,0 | 24,0  | 100,0 | 45,0 | 18,0 | 1,6 | 2     | Cylindrical | ■              |
| 421200R200Z2-MEGA-T | 02435044    | 2            | E          | —   | 20,0 | 20,0 | 24,0  | 100,0 | 45,0 | 18,0 | 2,0 | 2     | Cylindrical | ■              |
| 421200R250Z2AMEGA-T | 02438685    | 2            | E          | ■   | 20,0 | 20,0 | 24,0  | 100,0 | 45,0 | 18,0 | 2,5 | 2     | Cylindrical | ■              |
| 421200R250Z2-MEGA-T | 02435046    | 2            | E          | —   | 20,0 | 20,0 | 24,0  | 100,0 | 45,0 | 18,0 | 2,5 | 2     | Cylindrical | ■              |
| 421200R310Z2-MEGA-T | 02435049    | 2            | E          | —   | 20,0 | 20,0 | 24,0  | 100,0 | 45,0 | 18,0 | 3,1 | 2     | Cylindrical | ■              |
| 421200R400Z2-MEGA-T | 02435051    | 2            | E          | —   | 20,0 | 20,0 | 24,0  | 100,0 | 45,0 | 18,0 | 4,0 | 2     | Cylindrical | ■              |
| 421200R500Z2-MEGA-T | 02435055    | 2            | E          | —   | 20,0 | 20,0 | 24,0  | 100,0 | 45,0 | 18,0 | 5,0 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

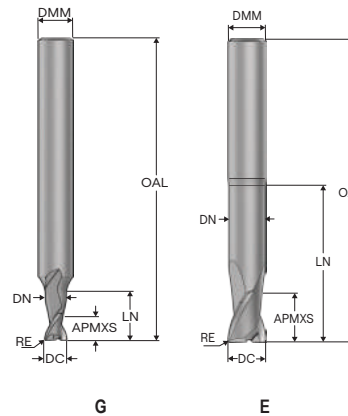
Graphite

X-Heads

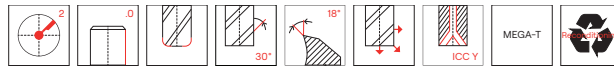
Minimaster

JH421

High performance – Aluminium – Square – 2 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM=h5
- DC= -0,02/-0,04 mm
- RE= ±0,05 mm
- Regrind possible



| Designation          | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL   | LN    | DN   | RE  | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|-----|------|------|-------|-------|-------|------|-----|-------|-------------|----------------|
|                      |             |              |            |     | mm   | mm   | mm    | mm    | mm    | mm   | mm  |       |             |                |
| 421L080R020Z2-MEGA-T | 02435068    | 3            | E          | —   | 8,0  | 8,0  | 6,0   | 75,0  | 40,0  | 7,2  | 0,2 | 2     | Cylindrical | ■              |
| 421L100R050Z2-MEGA-T | 02435070    | 3            | E          | —   | 10,0 | 10,0 | 8,0   | 90,0  | 50,0  | 9,0  | 0,5 | 2     | Cylindrical | ■              |
| 421L100R250Z2-MEGA-T | 02435074    | 3            | E          | —   | 10,0 | 10,0 | 8,0   | 90,0  | 50,0  | 9,0  | 2,5 | 2     | Cylindrical | ■              |
| 421L100R310Z2-MEGA-T | 02438690    | 3            | E          | —   | 10,0 | 10,0 | 8,0   | 90,0  | 50,0  | 9,0  | 3,1 | 2     | Cylindrical | ■              |
| 421L120R050Z2-MEGA-T | 02435340    | 3            | E          | —   | 12,0 | 12,0 | 10,0  | 110,0 | 70,0  | 11,0 | 0,5 | 2     | Cylindrical | ■              |
| 421L120R100Z2-MEGA-T | 02435343    | 3            | E          | —   | 12,0 | 12,0 | 10,0  | 110,0 | 70,0  | 11,0 | 1,0 | 2     | Cylindrical | ■              |
| 421L120R200Z2-MEGA-T | 02435373    | 3            | E          | —   | 12,0 | 12,0 | 10,0  | 110,0 | 70,0  | 11,0 | 2,0 | 2     | Cylindrical | ■              |
| 421L120R250Z2-MEGA-T | 02435374    | 3            | E          | —   | 12,0 | 12,0 | 10,0  | 110,0 | 70,0  | 11,0 | 2,5 | 2     | Cylindrical | ■              |
| 421L120R310Z2-MEGA-T | 02438692    | 3            | E          | —   | 12,0 | 12,0 | 10,0  | 110,0 | 70,0  | 11,0 | 3,1 | 2     | Cylindrical | ■              |
| 421L160R050Z2-MEGA-T | 02435375    | 3            | E          | —   | 16,0 | 16,0 | 13,0  | 125,0 | 80,0  | 14,5 | 0,5 | 2     | Cylindrical | ■              |
| 421L160R100Z2-MEGA-T | 02435380    | 3            | E          | —   | 16,0 | 16,0 | 13,0  | 125,0 | 80,0  | 14,5 | 1,0 | 2     | Cylindrical | ■              |
| 421L160R200Z2-MEGA-T | 02435381    | 3            | E          | —   | 16,0 | 16,0 | 13,0  | 125,0 | 80,0  | 14,5 | 2,0 | 2     | Cylindrical | ■              |
| 421L160R250Z2-MEGA-T | 02435383    | 3            | E          | ■   | 16,0 | 16,0 | 13,0  | 125,0 | 80,0  | 14,5 | 2,5 | 2     | Cylindrical | ■              |
| 421L160R250Z2-MEGA-T | 02435382    | 3            | E          | —   | 16,0 | 16,0 | 13,0  | 125,0 | 80,0  | 14,5 | 2,5 | 2     | Cylindrical | ■              |
| 421L160R310Z2-MEGA-T | 02435384    | 3            | E          | —   | 16,0 | 16,0 | 13,0  | 125,0 | 80,0  | 14,5 | 3,1 | 2     | Cylindrical | ■              |
| 421L160R400Z2-MEGA-T | 02435386    | 3            | E          | ■   | 16,0 | 16,0 | 13,0  | 125,0 | 80,0  | 14,5 | 4,0 | 2     | Cylindrical | ■              |
| 421L200R050Z2-MEGA-T | 02435387    | 3            | E          | —   | 20,0 | 20,0 | 16,0  | 150,0 | 100,0 | 18,0 | 0,5 | 2     | Cylindrical | ■              |
| 421L200R200Z2-MEGA-T | 02435391    | 3            | E          | —   | 20,0 | 20,0 | 16,0  | 150,0 | 100,0 | 18,0 | 2,0 | 2     | Cylindrical | ■              |
| 421L200R310Z2-MEGA-T | 02435398    | 3            | E          | —   | 20,0 | 20,0 | 16,0  | 150,0 | 100,0 | 18,0 | 3,1 | 2     | Cylindrical | ■              |
| 421L200R500Z2-MEGA-T | 02435401    | 3            | E          | —   | 20,0 | 20,0 | 16,0  | 150,0 | 100,0 | 18,0 | 5,0 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JH421 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>   |                 |                 |                 |                 |                 |                |                |                |                |                |                | v <sub>c</sub>                        |  |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------------------------------|--|
|     |                                                                                   |                    |                    | 2                | 3               | 4               | 5               | 6               | 8               | 10             | 12             | 14             | 16             | 20             | 25             |                                       |  |
| N1  | E/M/A                                                                             | 0.400<br>0,400     | 1.0<br>1,0         | 0.030<br>0,0012  | 0.044<br>0,0017 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060 | 0.18<br>0,0070 | 0.20<br>0,0080 | 0.22<br>0,0085 | 0.25<br>0,010  | 0.28<br>0,011  | 620 (520 — 720)<br>2025 (1800 — 2300) |  |
| N11 | E/M/A                                                                             | 0.400<br>0,400     | 1.0<br>1,0         | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.12<br>0,0048 | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.17<br>0,0065 | 0.19<br>0,0075 | 410 (310 — 510)<br>1350 (1100 — 1600) |  |
| TS1 | A                                                                                 | 0.400<br>0,400     | 1.0<br>1,0         | 0.030<br>0,0012  | 0.044<br>0,0017 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060 | 0.18<br>0,0070 | 0.20<br>0,0080 | 0.22<br>0,0085 | 0.25<br>0,010  | 0.28<br>0,011  | 620 (520 — 720)<br>2025 (1800 — 2300) |  |
| TP1 | M                                                                                 | 0.400<br>0,400     | 1.0<br>1,0         | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.16<br>0,0065 | 0.18<br>0,0070 | 0.20<br>0,0080 | 0.24<br>0,0095 | 410 (310 — 500)<br>1350 (1100 — 1600) |  |

## Cutting data – JH421 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>    |                  |                  |                  |                 |                 |                 |                 |                 |                 |                 |                | v <sub>c</sub>                        |  |
|-----|-----------------------------------------------------------------------------------|--------------------|-------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|---------------------------------------|--|
|     |                                                                                   |                    | 2                 | 3                | 4                | 5                | 6               | 8               | 10              | 12              | 14              | 16              | 20              | 25             |                                       |  |
| N1  | E/M/A                                                                             | 0.50<br>0,50       | 0.014<br>0,00055  | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.18<br>0,0070 | 610 (510 — 700)<br>2000 (1700 — 2200) |  |
| N11 | E/M/A                                                                             | 0.50<br>0,50       | 0.0080<br>0,00032 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 405 (310 — 500)<br>1325 (1100 — 1600) |  |
| TS1 | A                                                                                 | 0.50<br>0,50       | 0.014<br>0,00055  | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.18<br>0,0070 | 610 (510 — 700)<br>2000 (1700 — 2200) |  |
| TP1 | M                                                                                 | 0.50<br>0,50       | 0.010<br>0,00040  | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.13<br>0,0050 | 405 (310 — 500)<br>1325 (1100 — 1600) |  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

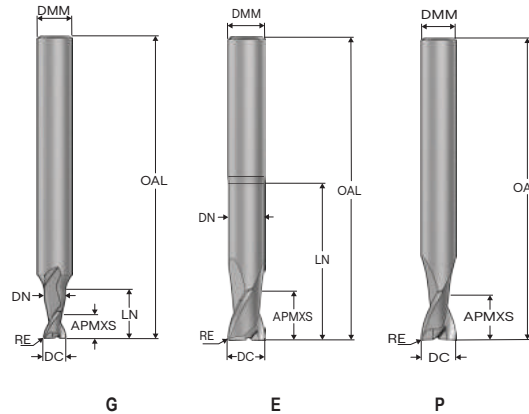
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

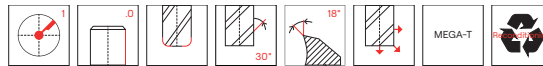
All cutting data are target values

## JH410

High performance – Aluminium – Square – 1 Flute – Cylindrical – Corner radius



- Tolerances:
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,02 mm
- Regrind possible if DC is ≥ Ø6



| Designation          | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN  | RE  | RE2 | CA°  | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|------|------|-------|-------|------|-----|-----|-----|------|-------|-------------|----------------|
|                      |             |              |            | mm   | mm   | mm    | mm    | mm   | mm  | mm  | mm  |      |       |             |                |
| 410020R050-MEGA-T    | 02451548    | 2            | G          | 2,0  | 6,0  | 3,0   | 50,0  | 6,0  | 1,7 | 0,5 | 2,0 | 12,0 | 1     | Cylindrical | ■              |
| 410030R050-MEGA-T    | 02451578    | 2            | G          | 3,0  | 6,0  | 4,0   | 50,0  | 8,0  | 2,7 | 0,5 | 2,0 | 7,5  | 1     | Cylindrical | ■              |
| 410ML030R050-MEGA-T  | 02451580    | 2            | G          | 3,0  | 6,0  | 4,0   | 60,0  | 15,0 | 2,7 | 0,5 | 2,0 | 5,0  | 1     | Cylindrical | ■              |
| 410040R050-MEGA-T    | 02451581    | 2            | G          | 4,0  | 6,0  | 5,0   | 60,0  | 8,0  | 3,6 | 0,5 | 2,0 | 5,5  | 1     | Cylindrical | ■              |
| 410ML040R050-MEGA-T  | 02451585    | 2            | G          | 4,0  | 6,0  | 5,0   | 60,0  | 15,0 | 3,6 | 0,5 | 2,0 | 3,5  | 1     | Cylindrical | ■              |
| 410050R050-MEGA-T    | 02451586    | 2            | G          | 5,0  | 6,0  | 7,0   | 65,0  | 11,0 | 4,5 | 0,5 | 2,0 | 2,5  | 1     | Cylindrical | ■              |
| 410ML050R050-MEGA-T  | 02451589    | 2            | G          | 5,0  | 6,0  | 7,0   | 65,0  | 18,0 | 4,5 | 0,5 | 2,0 | 1,5  | 1     | Cylindrical | ■              |
| 410TL050R050-MEGA-T  | 02451587    | 2            | G          | 5,0  | 6,0  | 7,0   | 65,0  | 26,0 | 4,5 | 0,5 | 2,0 | 1,5  | 1     | Cylindrical | ■              |
| 410060R050-MEGA-T    | 02451591    | 2            | E          | 6,0  | 6,0  | 8,0   | 70,0  | 11,0 | 5,3 | 0,5 | 2,0 | —    | 1     | Cylindrical | ■              |
| 410ML060R050-MEGA-T  | 02451593    | 2            | E          | 6,0  | 6,0  | 8,0   | 70,0  | 18,0 | 5,3 | 0,5 | 2,0 | —    | 1     | Cylindrical | ■              |
| 410TL060R050-MEGA-T  | 02451592    | 2            | E          | 6,0  | 6,0  | 8,0   | 70,0  | 31,0 | 5,3 | 0,5 | 2,0 | —    | 1     | Cylindrical | ■              |
| 410070RSR050-MEGA-T  | 02451594    | 2            | P          | 7,0  | 6,0  | 9,0   | 65,0  | —    | —   | 0,5 | 3,0 | —    | 1     | Cylindrical | ■              |
| 410090RSR050-MEGA-T  | 02451596    | 2            | P          | 9,0  | 8,0  | 11,0  | 65,0  | —    | —   | 0,5 | 3,0 | —    | 1     | Cylindrical | ■              |
| 410110RSR050-MEGA-T  | 02451598    | 2            | P          | 11,0 | 10,0 | 13,0  | 70,0  | —    | —   | 0,5 | 3,0 | —    | 1     | Cylindrical | ■              |
| 410130RSR100-MEGA-T  | 02451600    | 2            | P          | 13,0 | 12,0 | 15,0  | 70,0  | —    | —   | 1,0 | 3,0 | —    | 1     | Cylindrical | ■              |
| 410150RSR100-MEGA-T  | 02451603    | 2            | P          | 15,0 | 14,0 | 17,0  | 80,0  | —    | —   | 1,0 | 3,0 | —    | 1     | Cylindrical | ■              |
| 410170RSR100-MEGA-T  | 02451605    | 2            | P          | 17,0 | 16,0 | 19,0  | 80,0  | —    | —   | 1,0 | 3,0 | —    | 1     | Cylindrical | ■              |
| 410L070RSR200-MEGA-T | 02451595    | 3            | P          | 7,0  | 6,0  | 9,0   | 85,0  | —    | —   | 2,0 | 3,0 | —    | 1     | Cylindrical | ■              |
| 410L090RSR200-MEGA-T | 02451597    | 3            | P          | 9,0  | 8,0  | 11,0  | 85,0  | —    | —   | 2,0 | 3,0 | —    | 1     | Cylindrical | ■              |
| 410L110RSR200-MEGA-T | 02451599    | 3            | P          | 11,0 | 10,0 | 13,0  | 90,0  | —    | —   | 2,0 | 3,0 | —    | 1     | Cylindrical | ■              |
| 410L130RSR200-MEGA-T | 02451601    | 3            | P          | 13,0 | 12,0 | 15,0  | 90,0  | —    | —   | 2,0 | 3,0 | —    | 1     | Cylindrical | ■              |
| 410L150RSR200-MEGA-T | 02451604    | 3            | P          | 15,0 | 14,0 | 17,0  | 110,0 | —    | —   | 2,0 | 3,0 | —    | 1     | Cylindrical | ■              |
| 410L170RSR200-MEGA-T | 02451606    | 3            | P          | 17,0 | 16,0 | 19,0  | 110,0 | —    | —   | 2,0 | 3,0 | —    | 1     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and CFRP

Graphite

X-Heads

Minimaster

## Cutting data – JH410 Side milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 |                 |                 |                |                |                |                |                |                                       | v <sub>c</sub> |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|---------------------------------------|----------------|
|     |                                                                                   |                    |                    | 2               | 3               | 4               | 5               | 6               | 7               | 9              | 11             | 13             | 15             | 17             |                                       |                |
| N1  | E/M/A                                                                             | 0.410<br>0,410     | 1.0<br>1,0         | 0.070<br>0,0028 | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.18<br>0,0070  | 0.22<br>0,0085  | 0.25<br>0,010   | 0.32<br>0,013  | 0.40<br>0,016  | 0.46<br>0,018  | 0.50<br>0,020  | 0.55<br>0,022  | 710 (600 — 820)<br>2325 (2000 — 2600) |                |
| N11 | E/M/A                                                                             | 0.318<br>0,318     | 0.65<br>0,65       | 0.026<br>0,0010 | 0.040<br>0,0016 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 0.19<br>0,0075 | 0.22<br>0,0085 | 495 (380 — 610)<br>1625 (1300 — 2000) |                |
| TS1 | A                                                                                 | 0.410<br>0,410     | 1.0<br>1,0         | 0.070<br>0,0028 | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.18<br>0,0070  | 0.22<br>0,0085  | 0.25<br>0,010   | 0.32<br>0,013  | 0.40<br>0,016  | 0.46<br>0,018  | 0.50<br>0,020  | 0.55<br>0,022  | 710 (600 — 820)<br>2325 (2000 — 2600) |                |

## Cutting data – JH410 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |        |        |        |        |        |        |        |        |        |        |                    | v <sub>c</sub> |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|----------------|
|     |                                                                                   |                    | 2              | 3      | 4      | 5      | 6      | 7      | 9      | 11     | 13     | 15     | 17     |                    |                |
| N1  | E/M/A                                                                             | 0.75               | 0.055          | 0.080  | 0.11   | 0.14   | 0.16   | 0.19   | 0.25   | 0.30   | 0.36   | 0.40   | 0.46   | 630 (530 — 730)    |                |
|     |                                                                                   | 0.75               | 0,0022         | 0,0032 | 0,0044 | 0,0055 | 0,0065 | 0,0075 | 0,010  | 0,012  | 0,014  | 0,016  | 0,018  | 2075 (1800 — 2300) |                |
| N11 | E/M/A                                                                             | 0.36               | 0.018          | 0.028  | 0.036  | 0.046  | 0.055  | 0.065  | 0.080  | 0.10   | 0.12   | 0.14   | 0.15   | 420 (320 — 520)    |                |
|     |                                                                                   | 0.36               | 0,00070        | 0,0011 | 0,0014 | 0,0018 | 0,0022 | 0,0026 | 0,0032 | 0,0040 | 0,0048 | 0,0055 | 0,0060 | 1375 (1100 — 1700) |                |
| TS1 | A                                                                                 | 1.0                | 0.055          | 0.080  | 0.11   | 0.14   | 0.16   | 0.19   | 0.25   | 0.30   | 0.36   | 0.40   | 0.46   | 630 (530 — 730)    |                |
|     |                                                                                   | 1.0                | 0,0022         | 0,0032 | 0,0044 | 0,0055 | 0,0065 | 0,0075 | 0,010  | 0,012  | 0,014  | 0,016  | 0,018  | 2075 (1800 — 2300) |                |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

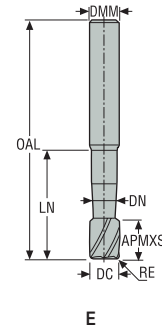
a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

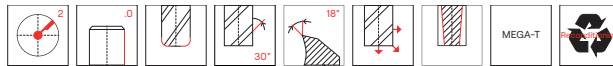


JH440

High speed – Aluminium – Square – 2 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM=h5
- DC= -0,02/-0,04 mm
- RE= ±0,05 mm
- Regrind possible



| Designation   | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN  | RE  | NA°  | PCEDC | Shank       | Stock standard |
|---------------|-------------|--------------|------------|-----|-----|-------|------|------|-----|-----|------|-------|-------------|----------------|
| 440060-MEGA-T | 00022702    | 2            | E          | 6,0 | 6,0 | 8,0   | 60,0 | 30,0 | 5,4 | 1,5 | 2,09 | 2     | Cylindrical | ■              |
| 440080-MEGA-T | 00022865    | 2            | E          | 8,0 | 8,0 | 10,0  | 60,0 | 30,0 | 7,2 | 2,0 | 3,12 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JH440 Copy milling roughing

| SMG |  | $a_e/DC$              | $a_p/DC$            | $f_z$                  |                        | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|-----------------------|---------------------|------------------------|------------------------|---------------------------------------|
|     |                                                                                   |                       |                     | 6                      | 8                      |                                       |
| N1  | E/M/A                                                                             | 0.300<br><i>0,300</i> | 0.50<br><i>0,50</i> | 0.080<br><i>0,0032</i> | 0.10<br><i>0,0040</i>  | 780 (650 — 900)<br>2550 (2200 — 2900) |
| N2  | E/M/A                                                                             | 0.300<br><i>0,300</i> | 0.50<br><i>0,50</i> | 0.060<br><i>0,0024</i> | 0.080<br><i>0,0032</i> | 510 (390 — 640)<br>1675 (1300 — 2000) |
| N3  | E/M/A                                                                             | 0.300<br><i>0,300</i> | 0.50<br><i>0,50</i> | 0.060<br><i>0,0024</i> | 0.080<br><i>0,0032</i> | 340 (260 — 420)<br>1125 (860 — 1300)  |
| N11 | E/M/A                                                                             | 0.300<br><i>0,300</i> | 0.50<br><i>0,50</i> | 0.060<br><i>0,0024</i> | 0.080<br><i>0,0032</i> | 255 (130 — 370)<br>840 (430 — 1200)   |
| TS1 | A                                                                                 | 0.300<br><i>0,300</i> | 0.50<br><i>0,50</i> | 0.080<br><i>0,0032</i> | 0.10<br><i>0,0040</i>  | 780 (650 — 900)<br>2550 (2200 — 2900) |
| TP1 | A                                                                                 | 0.300<br><i>0,300</i> | 0.60<br><i>0,60</i> | 0.060<br><i>0,0024</i> | 0.080<br><i>0,0032</i> | 510 (380 — 630)<br>1675 (1300 — 2000) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

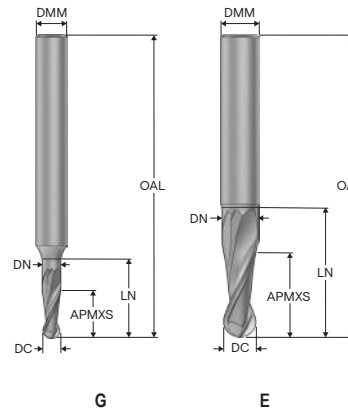
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

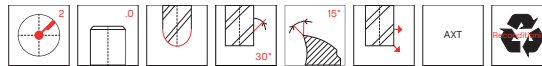
All cutting data are target values

## S4321

High performance – Aluminium – Ball nose – 2 Flutes – Cylindrical



- Tolerances:
- DMM=h5
- DC= e7
- RE= ±0,01 mm
- Regrind possible if DC is ≥Ø6



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE   | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|------|-------|-------------|----------------|
|                  |       |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm   |       |             |                |
| S4321-020G2B.0Z2 | AXT   | 10228152    | 2            | G          | 2,0  | 6,0  | 4,0   | 57,0  | 8,0  | 1,9  | 1,0  | 2     | Cylindrical | ■              |
| S4321-030G2B.0Z2 | AXT   | 10228153    | 2            | G          | 3,0  | 6,0  | 6,0   | 57,0  | 10,0 | 2,85 | 1,5  | 2     | Cylindrical | ■              |
| S4321-040G2B.0Z2 | AXT   | 10228154    | 2            | G          | 4,0  | 6,0  | 8,0   | 57,0  | 14,0 | 3,8  | 2,0  | 2     | Cylindrical | ■              |
| S4321-050G2B.0Z2 | AXT   | 10228155    | 2            | G          | 5,0  | 6,0  | 10,0  | 57,0  | 17,0 | 4,75 | 2,5  | 2     | Cylindrical | ■              |
| S4321-060E2B.0Z2 | AXT   | 10228156    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 19,0 | 5,7  | 3,0  | 2     | Cylindrical | ■              |
| S4321-080E2B.0Z2 | AXT   | 10228157    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 24,0 | 7,6  | 4,0  | 2     | Cylindrical | ■              |
| S4321-100E2B.0Z2 | AXT   | 10228158    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0 | 9,5  | 5,0  | 2     | Cylindrical | ■              |
| S4321-120E2B.0Z2 | AXT   | 10228159    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0 | 11,4 | 6,0  | 2     | Cylindrical | ■              |
| S4321-160E2B.0Z2 | AXT   | 10228160    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0 | 15,2 | 8,0  | 2     | Cylindrical | ■              |
| S4321-200E2B.0Z2 | AXT   | 10228161    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 10,0 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

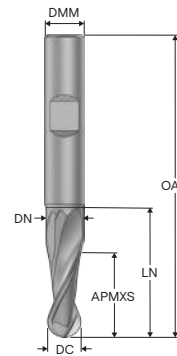
Graphite

X-Heads

Minimaster

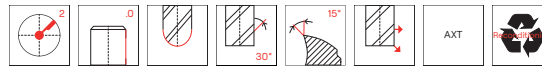
## S4321

High performance – Aluminium – Ball nose – 2 Flutes – Weldon



E

—Tolerances:  
—DMM=h5  
—DC= e7  
—RE= ±0,01 mm  
—Regrind possible if DC is ≥Ø6



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE   | PCEDC | Shank  | Stock standard           |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|------|------|------|-------|--------|--------------------------|
| S4321-060E2B.3Z2 | AXT   | 10287043    | 2            | E          | 6,0  | 6,0  | 12,0  | 57,0  | 19,0 | 5,7  | 3,0  | 2     | Weldon | <input type="checkbox"/> |
| S4321-080E2B.3Z2 | AXT   | 10287044    | 2            | E          | 8,0  | 8,0  | 16,0  | 63,0  | 24,0 | 7,6  | 4,0  | 2     | Weldon | <input type="checkbox"/> |
| S4321-100E2B.3Z2 | AXT   | 10287045    | 2            | E          | 10,0 | 10,0 | 20,0  | 72,0  | 31,0 | 9,5  | 5,0  | 2     | Weldon | <input type="checkbox"/> |
| S4321-120E2B.3Z2 | AXT   | 10287046    | 2            | E          | 12,0 | 12,0 | 24,0  | 88,0  | 37,0 | 11,4 | 6,0  | 2     | Weldon | <input type="checkbox"/> |
| S4321-160E2B.3Z2 | AXT   | 10287047    | 2            | E          | 16,0 | 16,0 | 32,0  | 100,0 | 48,0 | 15,2 | 8,0  | 2     | Weldon | <input type="checkbox"/> |
| S4321-200E2B.3Z2 | AXT   | 10287048    | 2            | E          | 20,0 | 20,0 | 40,0  | 114,0 | 60,0 | 19,0 | 10,0 | 2     | Weldon | <input type="checkbox"/> |

☐ Weldon available. Delivery time is 3 days.

## Cutting data – S4321 Side milling roughing

| SMG |  | $a_e/DC$     | $a_p/DC$   | $f_z$            |                 |                 |                 |                 |                 |                 |                |                |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|--------------|------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |              |            | 2                | 3               | 4               | 5               | 6               | 8               | 10              | 12             | 16             | 20             |                                       |
| N1  | E/M/A                                                                             | 0,30<br>0.30 | 1,5<br>1.5 | 0,020<br>0.00080 | 0,032<br>0.0013 | 0,042<br>0.0017 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,13<br>0.0050 | 0,17<br>0.0065 | 0,20<br>0.0080 | 560 (510 — 680)<br>1825 (1700 — 2200) |
| N2  | E/M/A                                                                             | 0,30<br>0.30 | 1,5<br>1.5 | 0,018<br>0.00070 | 0,026<br>0.0010 | 0,036<br>0.0014 | 0,044<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,11<br>0.0044 | 0,13<br>0.0050 | 0,15<br>0.0060 | 355 (270 — 440)<br>1175 (890 — 1400)  |
| N3  | E/M/A                                                                             | 0,30<br>0.30 | 1,5<br>1.5 | 0,018<br>0.00070 | 0,026<br>0.0010 | 0,036<br>0.0014 | 0,044<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,11<br>0.0044 | 0,13<br>0.0050 | 0,15<br>0.0060 | 235 (180 — 290)<br>770 (600 — 950)    |
| TS1 | A/D                                                                               | 0,30<br>0.30 | 1,5<br>1.5 | 0,022<br>0.00085 | 0,034<br>0.0013 | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050 | 0,17<br>0.0065 | 0,19<br>0.0075 | 670 (560 — 770)<br>2200 (1900 — 2500) |
| TP1 | A/D                                                                               | 0,30<br>0.30 | 1,5<br>1.5 | 0,036<br>0.0014  | 0,050<br>0.0020 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,14<br>0.0055  | 0,18<br>0.0070  | 0,20<br>0.0080 | 0,28<br>0.011  | 0,36<br>0.014  | 460 (350 — 570)<br>1500 (1200 — 1800) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
iron

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

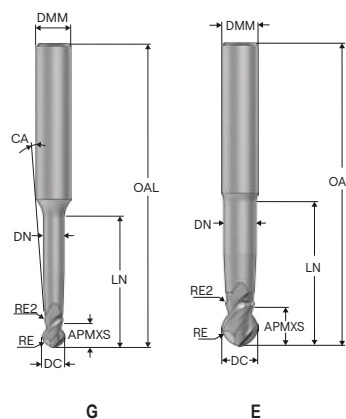
Graphite

X-Heads

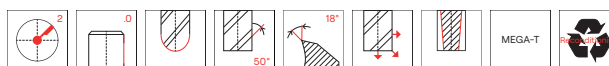
Minimaster

## JH450

High speed – Aluminium – Ball nose – 2 Flutes – Cylindrical



—Tolerances:  
—DMM= h5  
—DC= -0,02/-0,04 mm  
—RE= ±0,02 mm  
—Regrind possible if DC is ≥Ø6



| Designation    | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE   | RE2 | CA° | NA°   | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------|------|-------|-------|------|------|------|-----|-----|-------|-------|-------------|----------------|
| 450020-MEGA-T  | 00022977    | 2            | G          | 2,0  | 3,0  | 1,75  | 40,0  | 10,0 | 1,8  | 1,0  | 1,0 | 3,0 | 2,24  | 2     | Cylindrical | ■              |
| 450030-MEGA-T  | 00022978    | 2            | E          | 3,0  | 3,0  | 2,5   | 40,0  | 12,0 | 2,7  | 1,5  | 2,0 | —   | 2,497 | 2     | Cylindrical | ■              |
| 450040-MEGA-T  | 00022979    | 2            | G          | 4,0  | 6,0  | 3,5   | 50,0  | 21,0 | 3,6  | 2,0  | 2,0 | 3,0 | 5,053 | 2     | Cylindrical | ■              |
| 450050-MEGA-T  | 00022980    | 2            | G          | 5,0  | 6,0  | 4,5   | 50,0  | 22,5 | 4,5  | 2,5  | 2,0 | 2,0 | 3,576 | 2     | Cylindrical | ■              |
| 450060-MEGA-T  | 00023020    | 2            | E          | 6,0  | 6,0  | 5,5   | 55,0  | 25,0 | 5,4  | 3,0  | 2,0 | —   | 2,465 | 2     | Cylindrical | ■              |
| 450080-MEGA-T  | 00023032    | 2            | E          | 8,0  | 8,0  | 7,0   | 65,0  | 30,0 | 7,2  | 4,0  | 2,0 | —   | 2,491 | 2     | Cylindrical | ■              |
| 450100-MEGA-T  | 00023040    | 2            | E          | 10,0 | 10,0 | 8,5   | 75,0  | 35,0 | 9,0  | 5,0  | 3,0 | —   | 3,086 | 2     | Cylindrical | ■              |
| 450120-MEGA-T  | 00029842    | 2            | E          | 12,0 | 12,0 | 10,5  | 75,0  | 40,0 | 11,0 | 6,0  | 3,0 | —   | 2,735 | 2     | Cylindrical | ■              |
| 450160-MEGA-T  | 00023050    | 2            | E          | 16,0 | 16,0 | 14,0  | 90,0  | 50,0 | 14,5 | 8,0  | 4,0 | —   | 3,45  | 2     | Cylindrical | ■              |
| 450200-MEGA-T  | 00023053    | 2            | E          | 20,0 | 20,0 | 17,0  | 100,0 | 50,0 | 18,0 | 10,0 | 4,0 | —   | 5,321 | 2     | Cylindrical | ■              |
| 450L100-MEGA-T | 00023056    | 3            | G          | 10,0 | 12,0 | 8,5   | 125,0 | 50,0 | 9,0  | 5,0  | 3,0 | 1,5 | 3,16  | 2     | Cylindrical | ■              |
| 450L120-MEGA-T | 00023091    | 3            | E          | 12,0 | 12,0 | 10,5  | 150,0 | 60,0 | 11,0 | 6,0  | 3,0 | —   | 2,79  | 2     | Cylindrical | ■              |
| 450L160-MEGA-T | 00023095    | 3            | E          | 16,0 | 16,0 | 14,0  | 150,0 | 70,0 | 14,5 | 8,0  | 4,0 | —   | 3,51  | 2     | Cylindrical | ■              |

■ Stocked standard.

### Cutting data – JH450 Copy milling roughing

| SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$           |                 |                 |                |                |                |                |                |               |               | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|----------------|--------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|---------------------------------------|
|     |                                                                                   |                |              | 2               | 3               | 4               | 5              | 6              | 8              | 10             | 12             | 16            | 20            |                                       |
| N1  | E/M/A                                                                             | 0.400<br>0.400 | 0.24<br>0.24 | 0.040<br>0.0016 | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040 | 0.12<br>0.0048 | 0.16<br>0.0065 | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013 | 0.40<br>0.016 | 690 (670 — 930)<br>2275 (2200 — 3000) |
| N2  | E/M/A                                                                             | 0.300<br>0.300 | 0.24<br>0.24 | 0.040<br>0.0016 | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040 | 0.12<br>0.0048 | 0.16<br>0.0065 | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013 | 0.40<br>0.016 | 470 (410 — 680)<br>1550 (1400 — 2200) |
| N3  | E/M/A                                                                             | 0.300<br>0.300 | 0.24<br>0.24 | 0.040<br>0.0016 | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040 | 0.12<br>0.0048 | 0.16<br>0.0065 | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013 | 0.40<br>0.016 | 315 (280 — 450)<br>1025 (920 — 1400)  |
| N11 | E/M/A                                                                             | 0.300<br>0.300 | 0.24<br>0.24 | 0.040<br>0.0016 | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040 | 0.12<br>0.0048 | 0.16<br>0.0065 | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013 | 0.38<br>0.015 | 470 (420 — 680)<br>1550 (1400 — 2200) |
| TS1 | A                                                                                 | 0.500<br>0.500 | 0.50<br>0.50 | 0.040<br>0.0016 | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040 | 0.12<br>0.0048 | 0.16<br>0.0065 | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.30<br>0.012 | 0.34<br>0.013 | 700 (630 — 860)<br>2300 (2100 — 2800) |
| TP1 | M                                                                                 | 0.300<br>0.300 | 0.24<br>0.24 | 0.040<br>0.0016 | 0.060<br>0.0024 | 0.080<br>0.0032 | 0.10<br>0.0040 | 0.12<br>0.0048 | 0.16<br>0.0065 | 0.20<br>0.0080 | 0.24<br>0.0095 | 0.32<br>0.013 | 0.38<br>0.015 | 470 (410 — 680)<br>1550 (1400 — 2200) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

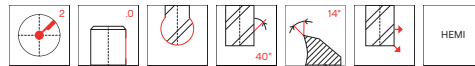
JH460

High speed – Aluminium – Ball nose – 2 Flutes – Cylindrical



E

—Tolerances:  
—DMM=h5  
—DC=-0,02/-0,06 mm  
—RE= ±0.02 mm  
—SA=250°



| Designation | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN  | RE  | PCEDC | Shank       | Stock standard |
|-------------|-------------|--------------|------------|------|------|-------|-------|------|-----|-----|-------|-------------|----------------|
| 460030-HEMI | 00040372    | 2            | E          | 3,0  | 3,0  | 2,3   | 60,0  | 4,8  | 1,5 | 1,5 | 2     | Cylindrical | ■              |
| 460040-HEMI | 00040373    | 2            | E          | 4,0  | 4,0  | 3,1   | 60,0  | 5,6  | 2,0 | 2,0 | 2     | Cylindrical | ■              |
| 460050-HEMI | 00040376    | 2            | E          | 5,0  | 5,0  | 3,9   | 70,0  | 6,4  | 2,5 | 2,5 | 2     | Cylindrical | ■              |
| 460060-HEMI | 00040377    | 2            | E          | 6,0  | 6,0  | 4,7   | 80,0  | 9,7  | 3,0 | 3,0 | 2     | Cylindrical | ■              |
| 460080-HEMI | 00040378    | 2            | E          | 8,0  | 8,0  | 6,2   | 85,0  | 11,2 | 4,0 | 4,0 | 2     | Cylindrical | ■              |
| 460100-HEMI | 00040379    | 2            | E          | 10,0 | 10,0 | 7,8   | 100,0 | 15,6 | 5,0 | 5,0 | 2     | Cylindrical | ■              |
| 460120-HEMI | 00040380    | 2            | E          | 12,0 | 12,0 | 9,4   | 125,0 | 17,2 | 6,0 | 6,0 | 2     | Cylindrical | ■              |

■ Stocked standard.



## Cutting data – JH460 Copy milling roughing

| SMG |  | $a_e/DC$              | $a_p/DC$            | $f_z$                  |                        |                        |                        |                        |                        |                       | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|-----------------------|---------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------------|---------------------------------------|
|     |                                                                                   |                       |                     | 3                      | 4                      | 5                      | 6                      | 8                      | 10                     | 12                    |                                       |
| N1  | E/M/A                                                                             | 0.500<br><i>0,500</i> | 0.20<br><i>0,20</i> | 0.055<br><i>0,0022</i> | 0.075<br><i>0,0030</i> | 0.095<br><i>0,0038</i> | 0.11<br><i>0,0044</i>  | 0.15<br><i>0,0060</i>  | 0.19<br><i>0,0075</i>  | 0.22<br><i>0,0085</i> | 590 (500 — 680)<br>1925 (1700 — 2200) |
| N11 | E/M/A                                                                             | 0.300<br><i>0,300</i> | 0.20<br><i>0,20</i> | 0.046<br><i>0,0018</i> | 0.065<br><i>0,0026</i> | 0.080<br><i>0,0032</i> | 0.095<br><i>0,0038</i> | 0.13<br><i>0,0050</i>  | 0.16<br><i>0,0065</i>  | 0.18<br><i>0,0070</i> | 610 (510 — 700)<br>2000 (1700 — 2200) |
| S11 | E/M/A                                                                             | 0.300<br><i>0,300</i> | 0.20<br><i>0,20</i> | 0.034<br><i>0,0013</i> | 0.044<br><i>0,0017</i> | 0.055<br><i>0,0022</i> | 0.065<br><i>0,0026</i> | 0.090<br><i>0,0036</i> | 0.11<br><i>0,0044</i>  | 0.13<br><i>0,0050</i> | 120 (110 — 130)<br>395 (370 — 420)    |
| S12 | E/M/A                                                                             | 0.300<br><i>0,300</i> | 0.20<br><i>0,20</i> | 0.034<br><i>0,0013</i> | 0.044<br><i>0,0017</i> | 0.055<br><i>0,0022</i> | 0.065<br><i>0,0026</i> | 0.090<br><i>0,0036</i> | 0.11<br><i>0,0044</i>  | 0.13<br><i>0,0050</i> | 90 (82 — 100)<br>295 (270 — 320)      |
| S13 | E/M/A                                                                             | 0.300<br><i>0,300</i> | 0.20<br><i>0,20</i> | 0.030<br><i>0,0012</i> | 0.038<br><i>0,0015</i> | 0.048<br><i>0,0019</i> | 0.060<br><i>0,0024</i> | 0.075<br><i>0,0030</i> | 0.095<br><i>0,0038</i> | 0.11<br><i>0,0044</i> | 75 (65 — 81)<br>245 (220 — 260)       |
| TS1 | A                                                                                 | 0.500<br><i>0,500</i> | 0.50<br><i>0,50</i> | 0.055<br><i>0,0022</i> | 0.070<br><i>0,0028</i> | 0.13<br><i>0,0050</i>  | 0.15<br><i>0,0060</i>  | 0.20<br><i>0,0080</i>  | 0.25<br><i>0,010</i>   | 0.30<br><i>0,012</i>  | 620 (520 — 720)<br>2025 (1800 — 2300) |
| TP1 | M                                                                                 | 0.300<br><i>0,300</i> | 0.20<br><i>0,20</i> | 0.046<br><i>0,0018</i> | 0.065<br><i>0,0026</i> | 0.080<br><i>0,0032</i> | 0.095<br><i>0,0038</i> | 0.13<br><i>0,0050</i>  | 0.16<br><i>0,0065</i>  | 0.18<br><i>0,0070</i> | 405 (360 — 450)<br>1325 (1200 — 1400) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

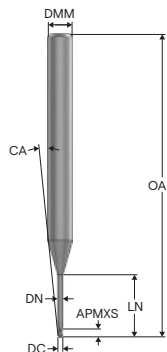
Graphite

X-Heads

Minimaster

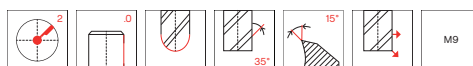
## SMB413/414/416

Miniature – Aluminium – Ball nose – 2 Flutes – Cylindrical



G

—Tolerances:  
 —Run-out= <0,005 mm  
 —DMM = h5  
 —DC = 0/-0,01 mm  
 —RE = ±0,005 mm



| Designation      | Grade | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°  | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|------|-------|-------------|----------------|
|                  |       |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm   |      |       |             |                |
| SMB414020G4B.0Z2 | M9    | 10109139    | 4            | G          | 2,0 | 4,0 | 2,0   | 50,0 | 12,0 | 1,9  | 1,0  | 3,75 | 2     | Cylindrical | ■              |
| SMB414030G4B.0Z2 | M9    | 10109140    | 4            | G          | 3,0 | 4,0 | 3,0   | 50,0 | 16,0 | 2,85 | 1,5  | 1,68 | 2     | Cylindrical | ■              |
| SMB413025G5B.0Z2 | M9    | 10109136    | 5            | G          | 2,5 | 3,0 | 2,5   | 50,0 | 20,0 | 2,4  | 1,25 | 0,71 | 2     | Cylindrical | ■              |
| SMB414025G5B.0Z2 | M9    | 10109141    | 5            | G          | 2,5 | 4,0 | 2,5   | 50,0 | 20,0 | 2,4  | 1,25 | 1,94 | 2     | Cylindrical | ■              |
| SMB416025G5B.0Z2 | M9    | 10109145    | 5            | G          | 2,5 | 6,0 | 1,0   | 55,0 | 20,0 | 0,95 | 1,25 | 3,87 | 2     | Cylindrical | ■              |
| SMB414010G6B.0Z2 | M9    | 10109142    | 6            | G          | 1,0 | 4,0 | 1,0   | 50,0 | 10,0 | 0,95 | 0,5  | 5,5  | 2     | Cylindrical | ■              |
| SMB413015G6B.0Z2 | M9    | 10109137    | 6            | G          | 1,5 | 3,0 | 1,5   | 50,0 | 20,0 | 1,4  | 0,75 | 1,9  | 2     | Cylindrical | ■              |
| SMB414015G6B.0Z2 | —     | 10109388    | 6            | G          | 1,5 | 4,0 | 2,5   | 55,0 | 20,0 | 2,4  | 0,75 | 2,92 | 2     | Cylindrical | ■              |
| SMB414015G6B.0Z2 | M9    | 10109143    | 6            | G          | 1,5 | 4,0 | 1,5   | 55,0 | 20,0 | 1,4  | 0,75 | 2,92 | 2     | Cylindrical | ■              |
| SMB416015G6B.0Z2 | M9    | 10109146    | 6            | G          | 1,5 | 6,0 | 1,5   | 55,0 | 20,0 | 1,4  | 0,75 | 4,56 | 2     | Cylindrical | ■              |
| SMB413010G7B.0Z2 | M9    | 10109138    | 7            | G          | 1,0 | 3,0 | 1,0   | 50,0 | 18,0 | 0,95 | 0,5  | 2,63 | 2     | Cylindrical | ■              |
| SMB414010G7B.0Z2 | M9    | 10109144    | 7            | G          | 1,0 | 4,0 | 1,0   | 50,0 | 18,0 | 0,95 | 0,5  | 3,64 | 2     | Cylindrical | ■              |
| SMB416010G7B.0Z2 | M9    | 10109147    | 7            | G          | 1,0 | 6,0 | 1,0   | 55,0 | 18,0 | 0,95 | 0,5  | 5,23 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

### Cutting data – SMB413 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$       | $f_z$            |                  |                 | $v_c$                             |
|-----|-----------------------------------------------------------------------------------|------------------|----------------|------------------|------------------|-----------------|-----------------------------------|
|     |                                                                                   |                  |                | 1                | 1.5              | 2.5             |                                   |
| N1  | E                                                                                 | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,032<br>0.0013 | 135 (86 — 170)<br>445 (290 — 550) |
| N2  | E                                                                                 | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,032<br>0.0013 | 85 (55 — 100)<br>280 (190 — 320)  |
| N3  | E                                                                                 | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,032<br>0.0013 | 55 (37 — 73)<br>180 (130 — 230)   |
| TS1 | A                                                                                 | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,032<br>0.0013 | 135 (86 — 170)<br>445 (290 — 550) |
| TP1 | A                                                                                 | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,032<br>0.0013 | 135 (86 — 170)<br>445 (290 — 550) |

Universal  
iron

Steel and cast  
iron

Stainless steel  
and S-materials

### Cutting data – SMB414 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$       | $f_z$            |                  |                 |                 |                 | $v_c$                             |
|-----|-----------------------------------------------------------------------------------|------------------|----------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------------------------|
|     |                                                                                   |                  |                | 1                | 1.5              | 2               | 2.5             | 3               |                                   |
| N1  | E                                                                                 | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,026<br>0.0010 | 0,032<br>0.0013 | 0,040<br>0.0016 | 135 (86 — 170)<br>445 (290 — 550) |
| N2  | E                                                                                 | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,026<br>0.0010 | 0,032<br>0.0013 | 0,040<br>0.0016 | 85 (55 — 100)<br>280 (190 — 320)  |
| N3  | E                                                                                 | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,026<br>0.0010 | 0,032<br>0.0013 | 0,040<br>0.0016 | 55 (37 — 73)<br>180 (130 — 230)   |
| TS1 | A                                                                                 | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,026<br>0.0010 | 0,032<br>0.0013 | 0,040<br>0.0016 | 135 (86 — 170)<br>445 (290 — 550) |
| TP1 | A                                                                                 | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,026<br>0.0010 | 0,032<br>0.0013 | 0,040<br>0.0016 | 135 (86 — 170)<br>445 (290 — 550) |

Non ferrous

Hard

### Cutting data – SMB416 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$       | $f_z$            |                  |                 | $v_c$                             |
|-----|-------------------------------------------------------------------------------------|------------------|----------------|------------------|------------------|-----------------|-----------------------------------|
|     |                                                                                     |                  |                | 1                | 1.5              | 2.5             |                                   |
| N1  | E                                                                                   | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,032<br>0.0013 | 135 (86 — 170)<br>445 (290 — 550) |
| N2  | E                                                                                   | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,032<br>0.0013 | 85 (55 — 100)<br>280 (190 — 320)  |
| N3  | E                                                                                   | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,032<br>0.0013 | 55 (37 — 73)<br>180 (130 — 230)   |
| TS1 | A                                                                                   | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,032<br>0.0013 | 135 (86 — 170)<br>445 (290 — 550) |
| TP1 | A                                                                                   | 0,0500<br>0.0500 | 0,080<br>0.080 | 0,013<br>0.00050 | 0,020<br>0.00080 | 0,032<br>0.0013 | 135 (86 — 170)<br>445 (290 — 550) |

Plastic and cfpr

Graphite

X-Heads

Minimaster

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

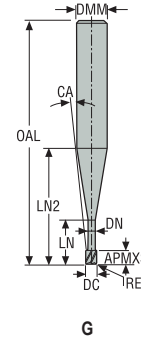
 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## JM403/JM404/JM406

Miniature – Aluminium – Square – 1 Flute – Cylindrical – Corner radius



—Tolerances:

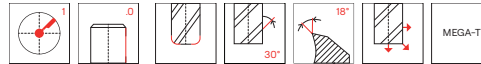
—Run-out=<0,005 mm

—DMM= h5

—DC= < Ø0,6= -0,005/-0,013 mm

—DC= ≥ Ø0,6= -0,005/-0,015 mm

—RE= ±0,01 mm



| Designation         | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN  | DN   | RE   | CA°  | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|-----|-----|-------|------|-----|------|------|------|-------|-------------|----------------|
|                     |             |              |            | mm  | mm  | mm    | mm   | mm  | mm   | mm   |      |       |             |                |
| 403ML005R005-MEGA-T | 02568434    | 2            | G          | 0,5 | 3,0 | 0,5   | 40,0 | 1,5 | 0,45 | 0,05 | 11,0 | 1     | Cylindrical | ■              |
| 403ML008R005-MEGA-T | 02568450    | 2            | G          | 0,8 | 3,0 | 0,8   | 40,0 | 2,5 | 0,75 | 0,05 | 9,0  | 1     | Cylindrical | ■              |
| 403ML010R010-MEGA-T | 02568456    | 2            | G          | 1,0 | 3,0 | 1,0   | 40,0 | 4,0 | 0,95 | 0,1  | 7,5  | 1     | Cylindrical | ■              |
| 406ML015R010-MEGA-T | 02568478    | 5            | G          | 1,5 | 6,0 | 1,5   | 50,0 | 5,0 | 1,4  | 0,1  | 9,5  | 1     | Cylindrical | ■              |
| 404ML020R010-MEGA-T | 02577246    | 5            | G          | 2,0 | 4,0 | 2,0   | 40,0 | 6,0 | 1,9  | 0,1  | 6,0  | 1     | Cylindrical | ■              |

■ Stocked standard.

### Cutting data – JM403/JM404/406 Side milling

| SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$            |                  |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|----------------|--------------|------------------|------------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                |              | 0.5              | 0.8              | 1               | 1.5             | 2               |                                       |
| N1  | E                                                                                 | 0.500<br>0,500 | 0.70<br>0,70 | 0.015<br>0,00060 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.042<br>0,0017 | 0.050<br>0,0020 | 365 (310 — 420)<br>1200 (1100 — 1300) |
| N2  | E                                                                                 | 0.500<br>0,500 | 0.70<br>0,70 | 0.015<br>0,00060 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.042<br>0,0017 | 0.050<br>0,0020 | 235 (200 — 270)<br>770 (660 — 880)    |
| N3  | E                                                                                 | 0.500<br>0,500 | 0.70<br>0,70 | 0.015<br>0,00060 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.042<br>0,0017 | 0.050<br>0,0020 | 155 (140 — 180)<br>510 (460 — 590)    |

### Cutting data – JM403/JM404/406 Slot milling

| SMG |  | $a_p/DC$     | $f_z$            |                 |                 |                 |                 | $v_c$                                |
|-----|-----------------------------------------------------------------------------------|--------------|------------------|-----------------|-----------------|-----------------|-----------------|--------------------------------------|
|     |                                                                                   |              | 0.5              | 0.8             | 1               | 1.5             | 2               |                                      |
| N1  | E                                                                                 | 0.40<br>0,40 | 0.015<br>0,00060 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.044<br>0,0017 | 0.050<br>0,0020 | 315 (270 — 360)<br>1025 (890 — 1100) |
| N2  | E                                                                                 | 0.40<br>0,40 | 0.015<br>0,00060 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.044<br>0,0017 | 0.050<br>0,0020 | 200 (170 — 230)<br>660 (560 — 750)   |
| N3  | E                                                                                 | 0.40<br>0,40 | 0.015<br>0,00060 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.044<br>0,0017 | 0.050<br>0,0020 | 135 (120 — 150)<br>445 (400 — 490)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

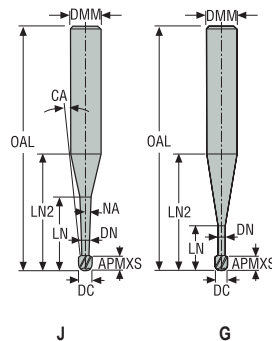
Graphite

X-Heads

Minimaster

## JM413/JM416

Miniature – Aluminium – Ball nose – 2 Flute – Cylindrical



—Tolerances:

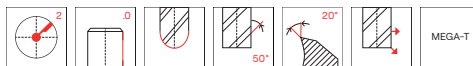
—Run-out=<0,005 mm

—DMM=h5

—DC= < Ø 0,6= -0,005/-0,013 mm

—DC= ≥ Ø 0,6= -0,005/-0,015 mm

—RE= ±0,005 mm



| Designation       | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°  | NA° | PCEDC | Shank       | Stock standard |
|-------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|------|-----|-------|-------------|----------------|
|                   |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm   |      |     |       |             |                |
| 413ML005TN-MEGA-T | 02568709    | 2            | J          | 0,5 | 3,0 | 0,375 | 40,0 | 1,5  | 0,45 | 0,25 | 11,5 | 0,9 | 2     | Cylindrical | ■              |
| 413L005-MEGA-T    | 02568711    | 3            | G          | 0,5 | 3,0 | 0,375 | 40,0 | 2,5  | 0,45 | 0,25 | 10,0 | —   | 2     | Cylindrical | ■              |
| 413L008-MEGA-T    | 02568727    | 3            | G          | 0,8 | 3,0 | 0,6   | 40,0 | 4,0  | 0,75 | 0,4  | 8,0  | —   | 2     | Cylindrical | ■              |
| 413L010-MEGA-T    | 02568736    | 3            | G          | 1,0 | 3,0 | 0,75  | 40,0 | 5,0  | 0,95 | 0,5  | 7,0  | —   | 2     | Cylindrical | ■              |
| 416L015-MEGA-T    | 02568772    | 3            | G          | 1,5 | 6,0 | 1,125 | 50,0 | 7,5  | 1,4  | 0,75 | 8,5  | —   | 2     | Cylindrical | ■              |
| 416L020-MEGA-T    | 02568779    | 3            | G          | 2,0 | 6,0 | 1,5   | 50,0 | 10,0 | 1,9  | 1,0  | 7,0  | —   | 2     | Cylindrical | ■              |

■ Stocked standard.

## Cutting data – JM413/416 Copy milling roughing

| SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$           |                 |                 |                 |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|----------------|--------------|-----------------|-----------------|-----------------|-----------------|----------------|---------------------------------------|
|     |                                                                                   |                |              | 0,5             | 0,8             | 1               | 1,5             | 2              |                                       |
| N1  | E                                                                                 | 0,300<br>0,300 | 0,30<br>0,30 | 0,030<br>0,0012 | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,085<br>0,0034 | 0,10<br>0,0040 | 385 (370 — 510)<br>1275 (1300 — 1600) |
| N2  | E                                                                                 | 0,300<br>0,300 | 0,30<br>0,30 | 0,030<br>0,0012 | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,085<br>0,0034 | 0,10<br>0,0040 | 245 (240 — 320)<br>800 (790 — 1000)   |
| N3  | E                                                                                 | 0,300<br>0,300 | 0,30<br>0,30 | 0,030<br>0,0012 | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,085<br>0,0034 | 0,10<br>0,0040 | 165 (160 — 210)<br>540 (530 — 680)    |
| N11 | E                                                                                 | 0,300<br>0,300 | 0,30<br>0,30 | 0,030<br>0,0012 | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,085<br>0,0034 | 0,10<br>0,0040 | 320 (300 — 430)<br>1050 (990 — 1400)  |
| TS1 | A                                                                                 | 0,300<br>0,300 | 0,30<br>0,30 | 0,030<br>0,0012 | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,085<br>0,0034 | 0,10<br>0,0040 | 385 (370 — 510)<br>1275 (1300 — 1600) |
| TP1 | A                                                                                 | 0,300<br>0,300 | 0,30<br>0,30 | 0,030<br>0,0012 | 0,048<br>0,0019 | 0,060<br>0,0024 | 0,085<br>0,0034 | 0,10<br>0,0040 | 385 (370 — 510)<br>1275 (1300 — 1600) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster



## HARD

Seco offers a complete range of high performance solid carbide square shoulder end mills, ballnose cutters and finish end mills for high productivity for hardened steel.

- JHP170, JHF181, JH120, JH130, JH930, JH142, JME142 and JME144 for radius type.
- JH112, JH150, JH160 and JMB112 for ball-nose type.



#### Tool Selection Hard

|                     |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|---------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                     |             |    |    |    |    |    |    |
|                     |             |    |    |    |    |    |    |
| Name                |             | JHP170                                                                              | JHF181                                                                              | JH120                                                                               | JH130                                                                                 | JH930                                                                                 | JH142                                                                                 |
| Page(s)             |             | 501                                                                                 | 504                                                                                 | 507                                                                                 | 509                                                                                   | 226, 511                                                                              | 303, 514                                                                              |
| Family name         |             | HPM                                                                                 | HFM                                                                                 | HSM/TORNADO                                                                         | HSM/TORNADO                                                                           | HSM/TORNADO                                                                           | HSM/TORNADO                                                                           |
| Type of mill        |             |    |    |    |    |    |    |
| Shank               | Cylindrical | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                     | ■                                                                                     | ■                                                                                     |
|                     | Weldon      | ■                                                                                   |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Number of Flutes    |             | 3-4                                                                                 | 3-4-5                                                                               | 4                                                                                   | 5-6, 8                                                                                | 5-6, 8                                                                                | 2-4-5-6                                                                               |
| CSP                 |             |                                                                                     | ■                                                                                   |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Diameter range      | Metric      | 2-20                                                                                | 1-10                                                                                | 2-16                                                                                | 6-20                                                                                  | 6-20                                                                                  | 2-12                                                                                  |
|                     | Inch        |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Length availability |             | 2                                                                                   | 1,2,3,4                                                                             | 2                                                                                   | 2                                                                                     | 2                                                                                     | 2,3,6                                                                                 |
| Operation           |             |  |  |  |                                                                                       |                                                                                       |                                                                                       |
|                     |             |  |  |  |  |  |                                                                                       |
|                     |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |  |
| SMG                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| H3                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| H5                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| H7                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| H8                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| H11                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |                                                                                       |
| H12                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |                                                                                       |
| H21                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     |
| H31                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     |

■ Stock standard □ Weldon available, delivery time is 3 days.  
● Preferred choice ○ Alternative choice

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Tool Selection Hard

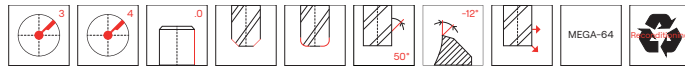
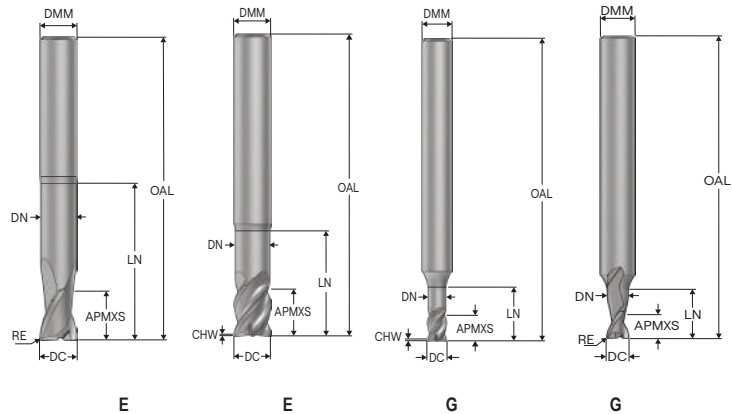
|                     |             |    |    |    |    |    |    |
|---------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Name                |             | JH112                                                                               | JH150                                                                               | JH160                                                                               | JME142                                                                               | JME144                                                                                | JMB112                                                                                |
| Page(s)             |             | 313, 517                                                                            | 520                                                                                 | 522                                                                                 | 524                                                                                  | 529                                                                                   | 531                                                                                   |
| Family name         |             | HSM/TORNADO                                                                         | HSM/TORNADO                                                                         | HSM/TORNADO                                                                         | MINI                                                                                 | MINI                                                                                  | MINI                                                                                  |
| Type of mill        |             |    |    |    |    |    |    |
| Shank               | Cylindrical |    |    |    |    |    |    |
|                     | Weldon      |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| Number of Flutes    |             | 2                                                                                   | 4                                                                                   | 4                                                                                   | 2                                                                                    | 4                                                                                     | 2                                                                                     |
| CSP                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| Diameter range      | Metric      | 2-12                                                                                | 6-12                                                                                | 3-12                                                                                | 0,2-3,0                                                                              | 1,0-3,0                                                                               | 0,2-3,0                                                                               |
|                     | Inch        |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| Length availability |             | 1,2,3,4,5,6                                                                         | 2                                                                                   | 2                                                                                   | 1,2,3,4,5,6                                                                          | 2,3,4                                                                                 | 1,2,3,4,5,6                                                                           |
| Operation           |             |                                                                                     |                                                                                     |                                                                                     |  |  |                                                                                       |
|                     |             |                                                                                     |                                                                                     |                                                                                     |  |  |                                                                                       |
|                     |             |  |  |  |                                                                                      |                                                                                       |  |
| SMG                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| H3                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| H5                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| H7                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| H8                  |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| H11                 |             |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| H12                 |             |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| H21                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| H31                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |

■ Stock standard □ Weldon available, delivery time is 3 days.

● Preferred choice ○ Alternative choice

## JHP170

High performance – Hardened steel – Square – 3-4 Flutes – Cylindrical – Corner radius or chamfer



- Tolerances:
- DMM= h5
- DC= -0,02/-0,04 mm
- CHW= Ø2- Ø4=+0,05 mm
- CHW= Ø5-Ø16=+0,1 mm
- RE= ±0,05 mm
- Regrind possible if DC is ≥Ø6

| Designation          | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | LN   | DN   | CHW  | RE  | CA°  | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|------|------|-------|------|------|------|------|-----|------|-------|-------------|----------------|
| 170020.0-MEGA-64     | 02462685    | 2            | G          | 2,0  | 6,0  | 2,0   | 50,0 | 4,0  | 1,9  | 0,08 | —   | 14,5 | 3     | Cylindrical | ■              |
| 170020R020.0-MEGA-64 | 02587615    | 2            | G          | 2,0  | 6,0  | 2,0   | 50,0 | 4,0  | 1,9  | —    | 0,2 | 14,5 | 3     | Cylindrical | ■              |
| 170020R050.0-MEGA-64 | 02587617    | 2            | G          | 2,0  | 6,0  | 2,0   | 50,0 | 4,0  | 1,9  | —    | 0,5 | 15,0 | 3     | Cylindrical | ■              |
| 170030.0-MEGA-64     | 02462686    | 2            | G          | 3,0  | 6,0  | 3,0   | 50,0 | 6,0  | 2,8  | 0,08 | —   | 9,0  | 3     | Cylindrical | ■              |
| 170030R020.0-MEGA-64 | 02587618    | 2            | G          | 3,0  | 6,0  | 3,0   | 50,0 | 6,0  | 2,8  | —    | 0,2 | 9,5  | 3     | Cylindrical | ■              |
| 170030R050.0-MEGA-64 | 02587619    | 2            | G          | 3,0  | 6,0  | 3,0   | 50,0 | 6,0  | 2,8  | —    | 0,5 | 9,5  | 3     | Cylindrical | ■              |
| 170040.0-MEGA-64     | 02462687    | 2            | G          | 4,0  | 6,0  | 4,0   | 50,0 | 8,0  | 3,7  | 0,1  | —   | 5,5  | 4     | Cylindrical | ■              |
| 170040R020.0-MEGA-64 | 02587620    | 2            | G          | 4,0  | 6,0  | 4,0   | 50,0 | 8,0  | 3,7  | —    | 0,2 | 5,5  | 4     | Cylindrical | ■              |
| 170040R050.0-MEGA-64 | 02587621    | 2            | G          | 4,0  | 6,0  | 4,0   | 50,0 | 8,0  | 3,7  | —    | 0,5 | 5,5  | 4     | Cylindrical | ■              |
| 170050.0-MEGA-64     | 02462688    | 2            | G          | 5,0  | 6,0  | 5,0   | 50,0 | 10,0 | 4,6  | 0,12 | —   | 2,5  | 4     | Cylindrical | ■              |
| 170050R020.0-MEGA-64 | 02587622    | 2            | G          | 5,0  | 6,0  | 5,0   | 50,0 | 10,0 | 4,6  | —    | 0,2 | 2,5  | 4     | Cylindrical | ■              |
| 170050R050.0-MEGA-64 | 02587623    | 2            | G          | 5,0  | 6,0  | 5,0   | 50,0 | 10,0 | 4,6  | —    | 0,5 | 2,5  | 4     | Cylindrical | ■              |
| 170060.0-MEGA-64     | 02462689    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0 | 11,5 | 5,6  | 0,14 | —   | —    | 4     | Cylindrical | ■              |
| 170060R020.0-MEGA-64 | 02587624    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0 | 11,5 | 5,6  | —    | 0,2 | —    | 4     | Cylindrical | ■              |
| 170060R050.0-MEGA-64 | 02587625    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0 | 11,5 | 5,6  | —    | 0,5 | —    | 4     | Cylindrical | ■              |
| 170080.0-MEGA-64     | 02462690    | 2            | E          | 8,0  | 8,0  | 8,0   | 55,0 | 16,0 | 7,4  | 0,16 | —   | —    | 4     | Cylindrical | ■              |
| 170080R020.0-MEGA-64 | 02587626    | 2            | E          | 8,0  | 8,0  | 8,0   | 55,0 | 16,0 | 7,4  | —    | 0,2 | —    | 4     | Cylindrical | ■              |
| 170080R050.0-MEGA-64 | 02587627    | 2            | E          | 8,0  | 8,0  | 8,0   | 55,0 | 16,0 | 7,4  | —    | 0,5 | —    | 4     | Cylindrical | ■              |
| 170080R100.0-MEGA-64 | 02587628    | 2            | E          | 8,0  | 8,0  | 8,0   | 55,0 | 16,0 | 7,4  | —    | 1,0 | —    | 4     | Cylindrical | ■              |
| 170100.0-MEGA-64     | 02462691    | 2            | E          | 10,0 | 10,0 | 10,0  | 65,0 | 22,0 | 9,4  | 0,18 | —   | —    | 4     | Cylindrical | ■              |
| 170100R050.0-MEGA-64 | 02587629    | 2            | E          | 10,0 | 10,0 | 10,0  | 65,0 | 22,0 | 9,4  | —    | 0,5 | —    | 4     | Cylindrical | ■              |
| 170100R100.0-MEGA-64 | 02587630    | 2            | E          | 10,0 | 10,0 | 10,0  | 65,0 | 22,0 | 9,4  | —    | 1,0 | —    | 4     | Cylindrical | ■              |
| 170120.0-MEGA-64     | 02462692    | 2            | E          | 12,0 | 12,0 | 12,0  | 75,0 | 27,0 | 11,4 | 0,2  | —   | —    | 4     | Cylindrical | ■              |
| 170120R050.0-MEGA-64 | 02587631    | 2            | E          | 12,0 | 12,0 | 12,0  | 75,0 | 27,0 | 11,4 | —    | 0,5 | —    | 4     | Cylindrical | ■              |
| 170120R100.0-MEGA-64 | 02587632    | 2            | E          | 12,0 | 12,0 | 12,0  | 75,0 | 27,0 | 11,4 | —    | 1,0 | —    | 4     | Cylindrical | ■              |
| 170160.0-MEGA-64     | 02462693    | 2            | E          | 16,0 | 16,0 | 16,0  | 80,0 | 29,0 | 15,4 | 0,3  | —   | —    | 4     | Cylindrical | ■              |
| 170160R050.0-MEGA-64 | 02587633    | 2            | E          | 16,0 | 16,0 | 16,0  | 80,0 | 29,0 | 15,4 | —    | 0,5 | —    | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfprp

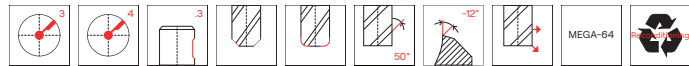
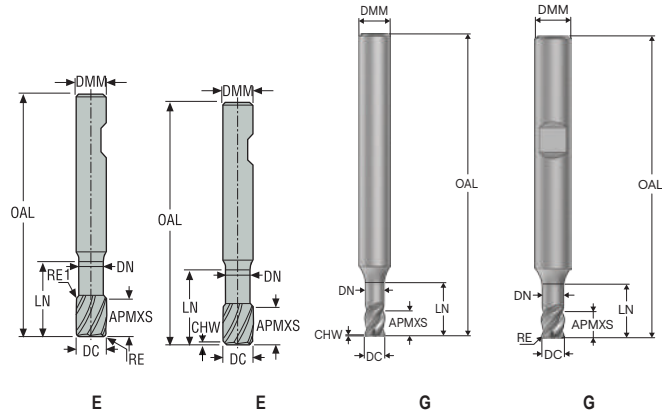
Graphite

X-Heads

Minimaster

## JHP170

High performance – Hardened steel – Square – 3-4 Flutes – Weldon – Corner radius or chamfer



- Tolerances:  
 —DMM= h5  
 —DC= -0,02/-0,04 mm  
 —CHW= Ø2-Ø4=+0,05 mm  
 —CHW= Ø5-Ø16= +0,1 mm  
 —RE= ±0,05 mm  
 —Regrind possible if DC is ≥Ø6

| Designation           | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | CHW  | RE  | CA°  | PCEDC | Shank  | Stock standard |
|-----------------------|-------------|--------------|------------|------|------|-------|-------|------|------|------|-----|------|-------|--------|----------------|
| 170020-MEGA-64        | 02452924    | 2            | G          | 2,0  | 6,0  | 2,0   | 50,0  | 4,0  | 1,9  | 0,08 | —   | 14,5 | 3     | Weldon | ■              |
| 170020R020.0-MEGA-64W | 02669319    | 2            | G          | 2,0  | 6,0  | 2,0   | 50,0  | 4,0  | 1,9  | —    | 0,2 | —    | 3     | Weldon | □              |
| 170020R050.0-MEGA-64W | 02669320    | 2            | G          | 2,0  | 6,0  | 2,0   | 50,0  | 4,0  | 1,9  | —    | 0,5 | —    | 3     | Weldon | □              |
| 170030-MEGA-64        | 02452925    | 2            | G          | 3,0  | 6,0  | 3,0   | 50,0  | 6,0  | 2,8  | 0,08 | —   | 9,0  | 3     | Weldon | ■              |
| 170030R020.0-MEGA-64W | 02669321    | 2            | G          | 3,0  | 6,0  | 3,0   | 50,0  | 6,0  | 2,8  | —    | 0,2 | —    | 3     | Weldon | □              |
| 170030R050.0-MEGA-64W | 02669322    | 2            | G          | 3,0  | 6,0  | 3,0   | 50,0  | 6,0  | 2,8  | —    | 0,5 | —    | 3     | Weldon | □              |
| 170040-MEGA-64        | 02452927    | 2            | G          | 4,0  | 6,0  | 4,0   | 50,0  | 8,0  | 3,7  | 0,1  | —   | 5,5  | 4     | Weldon | ■              |
| 170040R020.0-MEGA-64W | 02669323    | 2            | G          | 4,0  | 6,0  | 4,0   | 50,0  | 8,0  | 3,7  | —    | 0,2 | —    | 4     | Weldon | □              |
| 170040R050.0-MEGA-64W | 02669324    | 2            | G          | 4,0  | 6,0  | 4,0   | 50,0  | 8,0  | 3,7  | —    | 0,5 | —    | 4     | Weldon | □              |
| 170050-MEGA-64        | 02452928    | 2            | G          | 5,0  | 6,0  | 5,0   | 50,0  | 10,0 | 4,6  | 0,12 | —   | 2,5  | 4     | Weldon | ■              |
| 170050R020.0-MEGA-64W | 02669325    | 2            | G          | 5,0  | 6,0  | 5,0   | 50,0  | 10,0 | 4,6  | —    | 0,2 | —    | 4     | Weldon | □              |
| 170050R050.0-MEGA-64W | 02669326    | 2            | G          | 5,0  | 6,0  | 5,0   | 50,0  | 10,0 | 4,6  | —    | 0,5 | —    | 4     | Weldon | □              |
| 170060-MEGA-64        | 02452929    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0  | 11,5 | 5,6  | 0,14 | —   | —    | 4     | Weldon | ■              |
| 170060R020.0-MEGA-64W | 02669327    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0  | 11,5 | 5,6  | —    | 0,2 | —    | 4     | Weldon | □              |
| 170060R050.0-MEGA-64W | 02669328    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0  | 11,5 | 5,6  | —    | 0,5 | —    | 4     | Weldon | □              |
| 170080-MEGA-64        | 02452930    | 2            | E          | 8,0  | 8,0  | 8,0   | 55,0  | 16,0 | 7,4  | 0,16 | —   | —    | 4     | Weldon | ■              |
| 170080R020.0-MEGA-64W | 02669329    | 2            | E          | 8,0  | 8,0  | 8,0   | 55,0  | 16,0 | 7,4  | —    | 0,2 | —    | 4     | Weldon | □              |
| 170080R050.0-MEGA-64W | 02669331    | 2            | E          | 8,0  | 8,0  | 8,0   | 55,0  | 16,0 | 7,4  | —    | 0,5 | —    | 4     | Weldon | □              |
| 170080R100.0-MEGA-64W | 02669332    | 2            | E          | 8,0  | 8,0  | 8,0   | 55,0  | 16,0 | 7,4  | —    | 1,0 | —    | 4     | Weldon | □              |
| 170100-MEGA-64        | 02452931    | 2            | E          | 10,0 | 10,0 | 10,0  | 65,0  | 22,0 | 9,4  | 0,18 | —   | —    | 4     | Weldon | ■              |
| 170100R050.0-MEGA-64W | 02669333    | 2            | E          | 10,0 | 10,0 | 10,0  | 65,0  | 22,0 | 9,4  | —    | 0,5 | —    | 4     | Weldon | □              |
| 170100R100.0-MEGA-64W | 02669334    | 2            | E          | 10,0 | 10,0 | 10,0  | 65,0  | 22,0 | 9,4  | —    | 1,0 | —    | 4     | Weldon | □              |
| 170120-MEGA-64        | 02452932    | 2            | E          | 12,0 | 12,0 | 12,0  | 75,0  | 27,0 | 11,4 | 0,2  | —   | —    | 4     | Weldon | ■              |
| 170120R050.0-MEGA-64W | 02669335    | 2            | E          | 12,0 | 12,0 | 12,0  | 75,0  | 27,0 | 11,4 | —    | 0,5 | —    | 4     | Weldon | □              |
| 170120R100.0-MEGA-64W | 02669336    | 2            | E          | 12,0 | 12,0 | 12,0  | 75,0  | 27,0 | 11,4 | —    | 1,0 | —    | 4     | Weldon | □              |
| 170160-MEGA-64        | 02452933    | 2            | E          | 16,0 | 16,0 | 16,0  | 80,0  | 29,0 | 15,4 | 0,3  | —   | —    | 4     | Weldon | ■              |
| 170160R050.0-MEGA-64W | 02669337    | 2            | E          | 16,0 | 16,0 | 16,0  | 80,0  | 29,0 | 15,4 | —    | 0,5 | —    | 4     | Weldon | □              |
| 170200R050-MEGA-64    | 02611637    | 2            | E          | 20,0 | 20,0 | 20,0  | 100,0 | 40,0 | 19,2 | —    | 0,5 | —    | 4     | Weldon | ■              |

■ Stocked standard. □ Weldon available. Delivery time is 3 days.

## Cutting data – JHP170 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                  |                  |                  |                  |                 |                 |                 |                 | v <sub>c</sub>                  |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------|
|     |                                                                                   |                    |                    | 2                 | 3                 | 4                | 5                | 6                | 8                | 10              | 12              | 16              | 20              |                                 |
| H3  | M                                                                                 | 0.150<br>0,150     | 0.60<br>0,60       | 0.0055<br>0,00022 | 0.0085<br>0,00034 | 0.011<br>0,00044 | 0.014<br>0,00055 | 0.017<br>0,00065 | 0.022<br>0,00085 | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.048<br>0,0019 | 29 (22 — 35)<br>95 (73 — 110)   |
| H5  | M                                                                                 | 0.300<br>0,300     | 0.80<br>0,80       | 0.012<br>0,00048  | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.048<br>0,0019  | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 60 (56 — 68)<br>195 (190 — 220) |
| H7  | M                                                                                 | 0.150<br>0,150     | 0.60<br>0,60       | 0.0055<br>0,00022 | 0.0085<br>0,00034 | 0.011<br>0,00044 | 0.014<br>0,00055 | 0.017<br>0,00065 | 0.022<br>0,00085 | 0.028<br>0,0011 | 0.034<br>0,0013 | 0.042<br>0,0017 | 0.048<br>0,0019 | 29 (22 — 35)<br>95 (73 — 110)   |
| H8  | M                                                                                 | 0.300<br>0,300     | 0.80<br>0,80       | 0.0090<br>0,00036 | 0.014<br>0,00055  | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 65 (59 — 71)<br>215 (200 — 230) |
| H11 | M                                                                                 | 0.300<br>0,300     | 0.80<br>0,80       | 0.012<br>0,00048  | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.048<br>0,0019  | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 80 (71 — 86)<br>260 (240 — 280) |
| H12 | M                                                                                 | 0.300<br>0,300     | 0.80<br>0,80       | 0.0090<br>0,00036 | 0.014<br>0,00055  | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 75 (69 — 83)<br>245 (230 — 270) |
| H21 | M                                                                                 | 0.300<br>0,300     | 0.80<br>0,80       | 0.0090<br>0,00036 | 0.014<br>0,00055  | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 65 (59 — 71)<br>215 (200 — 230) |
| H31 | M                                                                                 | 0.300<br>0,300     | 0.80<br>0,80       | 0.012<br>0,00048  | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.048<br>0,0019  | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.10<br>0,0040  | 60 (56 — 68)<br>195 (190 — 220) |

Universal

Steel and cast iron

Stainless steel and S-materials

## Cutting data – JHP170 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                   |                  |                  |                  |                  |                  |                 |                 | v <sub>c</sub>                  |
|-----|-----------------------------------------------------------------------------------|--------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|---------------------------------|
|     |                                                                                   |                    | 2                 | 3                 | 4                 | 5                | 6                | 8                | 10               | 12               | 16              | 20              |                                 |
| H3  | M                                                                                 | 0.40<br>0,40       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.034<br>0,0013 | 20 (16 — 25)<br>65 (53 — 82)    |
| H5  | M                                                                                 | 0.60<br>0,60       | 0.0080<br>0,00032 | 0.012<br>0,00048  | 0.016<br>0,00065  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.065<br>0,0026 | 0.080<br>0,0032 | 50 (46 — 55)<br>165 (160 — 180) |
| H7  | M                                                                                 | 0.40<br>0,40       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040 | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.034<br>0,0013 | 20 (16 — 25)<br>65 (53 — 82)    |
| H8  | M                                                                                 | 0.60<br>0,60       | 0.0080<br>0,00032 | 0.012<br>0,00048  | 0.016<br>0,00065  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.065<br>0,0026 | 0.080<br>0,0032 | 50 (46 — 55)<br>165 (160 — 180) |
| H11 | M                                                                                 | 0.60<br>0,60       | 0.0080<br>0,00032 | 0.012<br>0,00048  | 0.016<br>0,00065  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.065<br>0,0026 | 0.080<br>0,0032 | 50 (46 — 55)<br>165 (160 — 180) |
| H12 | M                                                                                 | 0.60<br>0,60       | 0.0080<br>0,00032 | 0.012<br>0,00048  | 0.016<br>0,00065  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.065<br>0,0026 | 0.080<br>0,0032 | 50 (46 — 55)<br>165 (160 — 180) |
| H21 | M                                                                                 | 0.60<br>0,60       | 0.0080<br>0,00032 | 0.012<br>0,00048  | 0.016<br>0,00065  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.065<br>0,0026 | 0.080<br>0,0032 | 50 (46 — 55)<br>165 (160 — 180) |
| H31 | M                                                                                 | 0.60<br>0,60       | 0.0080<br>0,00032 | 0.012<br>0,00048  | 0.016<br>0,00065  | 0.020<br>0,00080 | 0.025<br>0,0010  | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.065<br>0,0026 | 0.080<br>0,0032 | 50 (46 — 55)<br>165 (160 — 180) |

Non ferrous

Hard

Plastic and cf/p

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

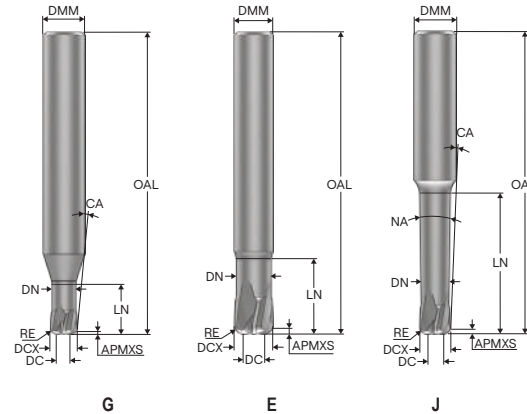
Graphite

X-Heads

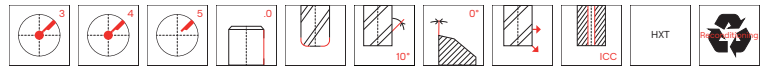
Minimaster

### JHF181

High feed – Hardened steel – Square – 3-5 Flutes – Cylindrical – Corner radius



—Tolerances:  
—DMM=h5  
—DC=0,02/-0,04 mm  
—RE= ±0,01 mm  
—Regrind possible if DC is ≥ Ø6



| Designation              | Item number | Length index | Tool shape | CSP | DCX  | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE   | CA°  | NA° | PCEDC | Shank       | Stock standard |
|--------------------------|-------------|--------------|------------|-----|------|------|------|-------|-------|------|------|------|------|-----|-------|-------------|----------------|
| JHF181020G1R050.0Z4-HXT  | 03067297    | 1            | G          | —   | 2,0  | 1,0  | 6,0  | 0,5   | 50,0  | 4,0  | 1,8  | 0,5  | 10,0 | —   | 4     | Cylindrical | ■              |
| JHF181030G1R075.0Z4-HXT  | 03067298    | 1            | G          | —   | 3,0  | 1,5  | 6,0  | 0,75  | 50,0  | 6,0  | 2,7  | 0,75 | 7,5  | —   | 4     | Cylindrical | ■              |
| JHF181040G1R100.0Z4-HXT  | 03067299    | 1            | G          | —   | 4,0  | 2,0  | 6,0  | 1,0   | 50,0  | 8,0  | 3,6  | 1,0  | 5,0  | —   | 4     | Cylindrical | ■              |
| JHF181060E1R150.0Z4-HXT  | 03067300    | 1            | E          | —   | 6,0  | 3,0  | 6,0  | 1,5   | 50,0  | 12,0 | 5,4  | 1,5  | —    | —   | 4     | Cylindrical | ■              |
| JHF181080E1R200.0Z4-HXT  | 03067301    | 1            | E          | —   | 8,0  | 4,0  | 8,0  | 2,0   | 55,0  | 16,0 | 7,3  | 2,0  | —    | —   | 4     | Cylindrical | ■              |
| JHF181100E1R200.0Z4-HXT  | 03067302    | 1            | E          | —   | 10,0 | 6,0  | 10,0 | 2,0   | 65,0  | 20,0 | 9,2  | 2,0  | —    | —   | 4     | Cylindrical | ■              |
| JHF181100E1R200.0Z5-HXT  | 03067303    | 1            | E          | —   | 10,0 | 6,0  | 10,0 | 2,0   | 65,0  | 20,0 | 9,2  | 2,0  | —    | —   | 5     | Cylindrical | ■              |
| JHF181120E1R300.0Z4-HXT  | 03067304    | 1            | E          | —   | 12,0 | 6,0  | 12,0 | 3,0   | 75,0  | 24,0 | 11,0 | 3,0  | —    | —   | 4     | Cylindrical | ■              |
| JHF181120E1R300.0Z5-HXT  | 03067305    | 1            | E          | —   | 12,0 | 6,0  | 12,0 | 3,0   | 75,0  | 24,0 | 11,0 | 3,0  | —    | —   | 5     | Cylindrical | ■              |
| JHF181160E1R300.0Z4-HXT  | 03067306    | 1            | E          | —   | 16,0 | 10,0 | 16,0 | 3,0   | 80,0  | 32,0 | 14,8 | 3,0  | —    | —   | 4     | Cylindrical | ■              |
| JHF181020G2R050.0Z4-HXT  | 03067307    | 2            | G          | —   | 2,0  | 1,0  | 6,0  | 0,5   | 50,0  | 8,0  | 1,8  | 0,5  | 7,5  | —   | 4     | Cylindrical | ■              |
| JHF181030G2R075.0Z4-HXT  | 03067308    | 2            | G          | —   | 3,0  | 1,5  | 6,0  | 0,75  | 50,0  | 12,0 | 2,7  | 0,75 | 5,0  | —   | 4     | Cylindrical | ■              |
| JHF181040G2R100.0Z4-HXT  | 03067309    | 2            | G          | —   | 4,0  | 2,0  | 6,0  | 1,0   | 50,0  | 16,0 | 3,6  | 1,0  | 3,0  | —   | 4     | Cylindrical | ■              |
| JHF181060E2R150.0Z4A-HXT | 03067311    | 2            | E          | ■   | 6,0  | 3,0  | 6,0  | 1,5   | 65,0  | 24,0 | 5,4  | 1,5  | —    | —   | 4     | Cylindrical | ■              |
| JHF181060E2R150.0Z4-HXT  | 03067310    | 2            | E          | —   | 6,0  | 3,0  | 6,0  | 1,5   | 65,0  | 24,0 | 5,4  | 1,5  | —    | —   | 4     | Cylindrical | ■              |
| JHF181080E2R200.0Z4A-HXT | 03067313    | 2            | E          | ■   | 8,0  | 4,0  | 8,0  | 2,0   | 70,0  | 32,0 | 7,3  | 2,0  | —    | —   | 4     | Cylindrical | ■              |
| JHF181080E2R200.0Z4-HXT  | 03067312    | 2            | E          | —   | 8,0  | 4,0  | 8,0  | 2,0   | 70,0  | 32,0 | 7,3  | 2,0  | —    | —   | 4     | Cylindrical | ■              |
| JHF181100E2R200.0Z4A-HXT | 03067315    | 2            | E          | ■   | 10,0 | 6,0  | 10,0 | 2,0   | 85,0  | 40,0 | 9,2  | 2,0  | —    | —   | 4     | Cylindrical | ■              |
| JHF181100E2R200.0Z4-HXT  | 03067314    | 2            | E          | —   | 10,0 | 6,0  | 10,0 | 2,0   | 85,0  | 40,0 | 9,2  | 2,0  | —    | —   | 4     | Cylindrical | ■              |
| JHF181120E2R300.0Z4A-HXT | 03067317    | 2            | E          | ■   | 12,0 | 6,0  | 12,0 | 3,0   | 100,0 | 48,0 | 11,0 | 3,0  | —    | —   | 4     | Cylindrical | ■              |
| JHF181120E2R300.0Z4-HXT  | 03067316    | 2            | E          | —   | 12,0 | 6,0  | 12,0 | 3,0   | 100,0 | 48,0 | 11,0 | 3,0  | —    | —   | 4     | Cylindrical | ■              |
| JHF181020J3R050.0Z4-HXT  | 03067318    | 3            | J          | —   | 2,0  | 1,0  | 6,0  | 0,5   | 50,0  | 10,0 | 1,8  | 0,5  | 6,8  | 0,9 | 4     | Cylindrical | ■              |
| JHF181030J3R075.0Z4-HXT  | 03067319    | 3            | J          | —   | 3,0  | 1,5  | 6,0  | 0,75  | 50,0  | 15,0 | 2,7  | 0,75 | 4,4  | 0,9 | 4     | Cylindrical | ■              |
| JHF181040J3R100.0Z4-HXT  | 03067320    | 3            | J          | —   | 4,0  | 2,0  | 6,0  | 1,0   | 60,0  | 20,0 | 3,6  | 1,0  | 2,6  | 0,9 | 4     | Cylindrical | ■              |
| JHF181060J3R150.0Z4-HXT  | 03067321    | 3            | J          | —   | 6,0  | 3,0  | 8,0  | 1,5   | 65,0  | 30,0 | 5,4  | 1,5  | 1,9  | 0,9 | 4     | Cylindrical | ■              |
| JHF181080J3R200.0Z4-HXT  | 03067325    | 3            | J          | —   | 8,0  | 4,0  | 10,0 | 2,0   | 85,0  | 40,0 | 7,3  | 2,0  | 1,5  | 0,9 | 4     | Cylindrical | ■              |
| JHF181100J3R200.0Z4-HXT  | 03067327    | 3            | J          | —   | 10,0 | 6,0  | 12,0 | 2,0   | 100,0 | 50,0 | 9,2  | 2,0  | 1,2  | 0,9 | 4     | Cylindrical | ■              |
| JHF181020J4R050.0Z3-HXT  | 03067329    | 4            | J          | —   | 2,0  | 1,0  | 6,0  | 0,5   | 50,0  | 14,0 | 1,8  | 0,5  | 5,6  | 0,9 | 3     | Cylindrical | ■              |
| JHF181030J4R075.0Z3-HXT  | 03067330    | 4            | J          | —   | 3,0  | 1,5  | 6,0  | 0,75  | 60,0  | 21,0 | 2,7  | 0,75 | 3,4  | 0,9 | 3     | Cylindrical | ■              |
| JHF181040J4R100.0Z3-HXT  | 03067331    | 4            | J          | —   | 4,0  | 2,0  | 6,0  | 1,0   | 65,0  | 28,0 | 3,6  | 1,0  | 2,0  | 0,9 | 3     | Cylindrical | ■              |
| JHF181060J4R150.0Z3-HXT  | 03067332    | 4            | J          | —   | 6,0  | 3,0  | 8,0  | 1,5   | 80,0  | 42,0 | 5,4  | 1,5  | 1,4  | 0,9 | 3     | Cylindrical | ■              |
| JHF181080J4R200.0Z3-HXT  | 03067333    | 4            | J          | —   | 8,0  | 4,0  | 10,0 | 2,0   | 100,0 | 56,0 | 7,3  | 2,0  | 1,1  | 0,9 | 3     | Cylindrical | ■              |
| JHF181100J4R200.0Z3-HXT  | 03067334    | 4            | J          | —   | 10,0 | 6,0  | 12,0 | 2,0   | 125,0 | 70,0 | 9,2  | 2,0  | 0,9  | 0,9 | 3     | Cylindrical | ■              |

■ Stocked standard.

#### Cutting data – JHF181 Side milling roughing

| SMG |  | $a_e/DCX$    | $a_p/DCX$      | $f_z$            |                 |                 |                 |                 |                |                |                | $v_c$                                |                                 |
|-----|-----------------------------------------------------------------------------------|--------------|----------------|------------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|--------------------------------------|---------------------------------|
|     |                                                                                   |              |                | 2                | 3               | 4               | 6               | 8               | 10             | 12             | 16             |                                      |                                 |
| P6  | E/M/A                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.20<br>0,0080  | 0.28<br>0,011   | 0.34<br>0,013  | 0.40<br>0,016  | 0.55<br>0,022  | 305 (290 — 320)<br>1000 (960 — 1000) | Universal                       |
| P7  | E/M/A                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.20<br>0,0080  | 0.28<br>0,011   | 0.34<br>0,013  | 0.40<br>0,016  | 0.55<br>0,022  | 290 (270 — 300)<br>950 (890 — 980)   |                                 |
| P8  | E/M/A                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.20<br>0,0080  | 0.28<br>0,011   | 0.34<br>0,013  | 0.40<br>0,016  | 0.55<br>0,022  | 270 (260 — 290)<br>890 (860 — 950)   | Steel and cast iron             |
| P11 | E/M/A                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.20<br>0,0080  | 0.28<br>0,011   | 0.34<br>0,013  | 0.40<br>0,016  | 0.55<br>0,022  | 280 (270 — 290)<br>920 (890 — 950)   |                                 |
| K1  | E/M/A                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.20<br>0,0080  | 0.28<br>0,011   | 0.34<br>0,013  | 0.40<br>0,016  | 0.55<br>0,022  | 210 (190 — 240)<br>690 (630 — 780)   | Steel and stainless steel       |
| K2  | E/M/A                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.20<br>0,0080  | 0.28<br>0,011   | 0.34<br>0,013  | 0.40<br>0,016  | 0.55<br>0,022  | 185 (160 — 200)<br>610 (530 — 650)   |                                 |
| K3  | E/M/A                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.20<br>0,0080  | 0.28<br>0,011   | 0.34<br>0,013  | 0.40<br>0,016  | 0.55<br>0,022  | 155 (140 — 170)<br>510 (460 — 550)   | Stainless steel and S-materials |
| K4  | E/M/A                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.20<br>0,0080  | 0.28<br>0,011   | 0.34<br>0,013  | 0.40<br>0,016  | 0.55<br>0,022  | 150 (130 — 160)<br>490 (430 — 520)   |                                 |
| K5  | E/M/A                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.050<br>0,0020  | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.16<br>0,0065  | 0.20<br>0,0080  | 0.26<br>0,010  | 0.32<br>0,013  | 0.42<br>0,017  | 150 (120 — 170)<br>490 (400 — 550)   | Non ferrous                     |
| K6  | E/M/A                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.050<br>0,0020  | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.16<br>0,0065  | 0.20<br>0,0080  | 0.26<br>0,010  | 0.32<br>0,013  | 0.42<br>0,017  | 220 (180 — 260)<br>720 (600 — 850)   |                                 |
| K7  | E/M/A                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.050<br>0,0020  | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.16<br>0,0065  | 0.20<br>0,0080  | 0.26<br>0,010  | 0.32<br>0,013  | 0.42<br>0,017  | 190 (160 — 220)<br>620 (530 — 720)   | Hard                            |
| S1  | E                                                                                 | 0.18<br>0,18 | 0.014<br>0,014 | 0.025<br>0,0010  | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.075<br>0,0030 | 0.10<br>0,0040  | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.19<br>0,0075 | 60 (40 — 79)<br>195 (140 — 250)      |                                 |
| S2  | E                                                                                 | 0.18<br>0,18 | 0.014<br>0,014 | 0.025<br>0,0010  | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.075<br>0,0030 | 0.10<br>0,0040  | 0.13<br>0,0050 | 0.15<br>0,0060 | 0.19<br>0,0075 | 48 (33 — 64)<br>155 (110 — 200)      | Hard                            |
| S3  | E                                                                                 | 0.18<br>0,18 | 0.014<br>0,014 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.070<br>0,0028 | 0.095<br>0,0038 | 0.12<br>0,0048 | 0.14<br>0,0055 | 0.17<br>0,0065 | 42 (28 — 55)<br>140 (92 — 180)       |                                 |
| S11 | E                                                                                 | 0.18<br>0,18 | 0.034<br>0,034 | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.18<br>0,0070 | 0.22<br>0,0085 | 0.26<br>0,010  | 200 (180 — 220)<br>660 (600 — 720)   | Hard                            |
| S12 | E                                                                                 | 0.18<br>0,18 | 0.034<br>0,034 | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.11<br>0,0044  | 0.14<br>0,0055  | 0.18<br>0,0070 | 0.22<br>0,0085 | 0.26<br>0,010  | 155 (140 — 170)<br>510 (460 — 550)   |                                 |
| S13 | E                                                                                 | 0.18<br>0,18 | 0.034<br>0,034 | 0.032<br>0,0013  | 0.046<br>0,0018 | 0.065<br>0,0026 | 0.095<br>0,0038 | 0.13<br>0,0050  | 0.16<br>0,0065 | 0.18<br>0,0070 | 0.24<br>0,0095 | 125 (110 — 130)<br>410 (370 — 420)   | Plastic and cfpr                |
| H3  | M/A/D                                                                             | 0.30<br>0,30 | 0.020<br>0,020 | 0.050<br>0,0020  | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.16<br>0,0065  | 0.20<br>0,0080  | 0.26<br>0,010  | 0.32<br>0,013  | 0.42<br>0,017  | 85 (73 — 96)<br>280 (240 — 310)      |                                 |
| H5  | M/A/D                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.20<br>0,0080  | 0.28<br>0,011   | 0.34<br>0,013  | 0.40<br>0,016  | 0.55<br>0,022  | 165 (150 — 180)<br>540 (500 — 590)   | Plastic and cfpr                |
| H7  | M/A/D                                                                             | 0.30<br>0,30 | 0.020<br>0,020 | 0.050<br>0,0020  | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.16<br>0,0065  | 0.20<br>0,0080  | 0.26<br>0,010  | 0.32<br>0,013  | 0.42<br>0,017  | 85 (73 — 96)<br>280 (240 — 310)      |                                 |
| H8  | M/A/D                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.20<br>0,0080  | 0.28<br>0,011   | 0.34<br>0,013  | 0.40<br>0,016  | 0.55<br>0,022  | 165 (150 — 180)<br>540 (500 — 590)   | Graphite                        |
| H11 | M/A/D                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.20<br>0,0080  | 0.28<br>0,011   | 0.34<br>0,013  | 0.40<br>0,016  | 0.55<br>0,022  | 210 (190 — 230)<br>690 (630 — 750)   |                                 |
| H12 | M/A/D                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.20<br>0,0080  | 0.28<br>0,011   | 0.34<br>0,013  | 0.40<br>0,016  | 0.55<br>0,022  | 190 (180 — 210)<br>620 (600 — 680)   | Graphite                        |
| H21 | M/A/D                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.20<br>0,0080  | 0.28<br>0,011   | 0.34<br>0,013  | 0.40<br>0,016  | 0.55<br>0,022  | 165 (150 — 180)<br>540 (500 — 590)   |                                 |
| H31 | M/A/D                                                                             | 0.30<br>0,30 | 0.040<br>0,040 | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.20<br>0,0080  | 0.28<br>0,011   | 0.34<br>0,013  | 0.40<br>0,016  | 0.55<br>0,022  | 125 (120 — 130)<br>410 (400 — 420)   |                                 |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

#### Cutting data – JHF181 Slot milling

|                                 | SMG |  | $a_p$ /DCX     | $f_z$             |                  |                  |                 |                 |                 |                 |                 | $v_c$                              |
|---------------------------------|-----|-----------------------------------------------------------------------------------|----------------|-------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|                                 |     |                                                                                   |                | 2                 | 3                | 4                | 6               | 8               | 10              | 12              | 16              |                                    |
| Universal                       | P6  | E/M/A                                                                             | 0.040<br>0,040 | 0.042<br>0,0017   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.13<br>0,0050  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.25<br>0,010   | 0.34<br>0,013   | 270 (260 — 280)<br>890 (860 — 910) |
|                                 | P7  | E/M/A                                                                             | 0.040<br>0,040 | 0.042<br>0,0017   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.13<br>0,0050  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.25<br>0,010   | 0.34<br>0,013   | 255 (240 — 270)<br>840 (790 — 880) |
| Steel and cast iron             | P8  | E/M/A                                                                             | 0.040<br>0,040 | 0.042<br>0,0017   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.13<br>0,0050  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.25<br>0,010   | 0.34<br>0,013   | 240 (230 — 250)<br>790 (760 — 820) |
|                                 | P11 | E/M/A                                                                             | 0.040<br>0,040 | 0.042<br>0,0017   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.13<br>0,0050  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.25<br>0,010   | 0.34<br>0,013   | 250 (240 — 260)<br>820 (790 — 850) |
|                                 | K1  | E/M/A                                                                             | 0.040<br>0,040 | 0.042<br>0,0017   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.13<br>0,0050  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.25<br>0,010   | 0.34<br>0,013   | 185 (170 — 210)<br>610 (560 — 680) |
|                                 | K2  | E/M/A                                                                             | 0.040<br>0,040 | 0.042<br>0,0017   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.13<br>0,0050  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.25<br>0,010   | 0.34<br>0,013   | 160 (140 — 180)<br>520 (460 — 590) |
| Stainless steel and S-materials | K3  | E/M/A                                                                             | 0.040<br>0,040 | 0.042<br>0,0017   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.13<br>0,0050  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.25<br>0,010   | 0.34<br>0,013   | 135 (120 — 150)<br>445 (400 — 490) |
|                                 | K4  | E/M/A                                                                             | 0.040<br>0,040 | 0.042<br>0,0017   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.13<br>0,0050  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.25<br>0,010   | 0.34<br>0,013   | 130 (120 — 140)<br>425 (400 — 450) |
|                                 | K5  | E/M/A                                                                             | 0.040<br>0,040 | 0.030<br>0,0012   | 0.046<br>0,0018  | 0.060<br>0,0024  | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070  | 0.24<br>0,0095  | 130 (110 — 150)<br>425 (370 — 490) |
|                                 | K6  | E/M/A                                                                             | 0.040<br>0,040 | 0.030<br>0,0012   | 0.046<br>0,0018  | 0.060<br>0,0024  | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070  | 0.24<br>0,0095  | 195 (160 — 230)<br>640 (530 — 750) |
| Non ferrous                     | K7  | E/M/A                                                                             | 0.040<br>0,040 | 0.030<br>0,0012   | 0.046<br>0,0018  | 0.060<br>0,0024  | 0.090<br>0,0036 | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070  | 0.24<br>0,0095  | 170 (140 — 200)<br>560 (460 — 650) |
|                                 | S1  | E                                                                                 | 0.014<br>0,014 | 0.0090<br>0,00036 | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.070<br>0,0028 | 48 (33 — 64)<br>155 (110 — 200)    |
|                                 | S2  | E                                                                                 | 0.014<br>0,014 | 0.0090<br>0,00036 | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.070<br>0,0028 | 39 (26 — 51)<br>130 (86 — 160)     |
|                                 | S3  | E                                                                                 | 0.014<br>0,014 | 0.0090<br>0,00036 | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.028<br>0,0011 | 0.036<br>0,0014 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.070<br>0,0028 | 33 (23 — 44)<br>110 (76 — 140)     |
| Hard                            | S11 | E                                                                                 | 0.034<br>0,034 | 0.011<br>0,00044  | 0.017<br>0,00065 | 0.022<br>0,00085 | 0.034<br>0,0013 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 170 (150 — 190)<br>560 (500 — 620) |
|                                 | S12 | E                                                                                 | 0.034<br>0,034 | 0.011<br>0,00044  | 0.017<br>0,00065 | 0.022<br>0,00085 | 0.034<br>0,0013 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 130 (120 — 140)<br>425 (400 — 450) |
|                                 | S13 | E                                                                                 | 0.034<br>0,034 | 0.011<br>0,00044  | 0.017<br>0,00065 | 0.022<br>0,00085 | 0.034<br>0,0013 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 100 (89 — 110)<br>330 (300 — 360)  |
| Plastic and cf/rp               | H3  | M/A/D                                                                             | 0.020<br>0,020 | 0.034<br>0,0013   | 0.050<br>0,0020  | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.28<br>0,011   | 75 (63 — 83)<br>245 (210 — 270)    |
|                                 | H5  | M/A/D                                                                             | 0.040<br>0,040 | 0.042<br>0,0017   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.13<br>0,0050  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.25<br>0,010   | 0.34<br>0,013   | 145 (130 — 160)<br>475 (430 — 520) |
|                                 | H7  | M/A/D                                                                             | 0.020<br>0,020 | 0.034<br>0,0013   | 0.050<br>0,0020  | 0.070<br>0,0028  | 0.10<br>0,0040  | 0.14<br>0,0055  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.28<br>0,011   | 75 (63 — 83)<br>245 (210 — 270)    |
|                                 | H8  | M/A/D                                                                             | 0.040<br>0,040 | 0.042<br>0,0017   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.13<br>0,0050  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.25<br>0,010   | 0.34<br>0,013   | 145 (130 — 160)<br>475 (430 — 520) |
| Graphite                        | H11 | M/A/D                                                                             | 0.040<br>0,040 | 0.042<br>0,0017   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.13<br>0,0050  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.25<br>0,010   | 0.34<br>0,013   | 185 (170 — 200)<br>610 (560 — 650) |
|                                 | H12 | M/A/D                                                                             | 0.040<br>0,040 | 0.042<br>0,0017   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.13<br>0,0050  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.25<br>0,010   | 0.34<br>0,013   | 170 (160 — 180)<br>560 (530 — 590) |
|                                 | H21 | M/A/D                                                                             | 0.040<br>0,040 | 0.042<br>0,0017   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.13<br>0,0050  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.25<br>0,010   | 0.34<br>0,013   | 145 (130 — 160)<br>475 (430 — 520) |
|                                 | H31 | M/A/D                                                                             | 0.040<br>0,040 | 0.042<br>0,0017   | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.13<br>0,0050  | 0.17<br>0,0065  | 0.20<br>0,0080  | 0.25<br>0,010   | 0.34<br>0,013   | 110 (98 — 120)<br>360 (330 — 390)  |

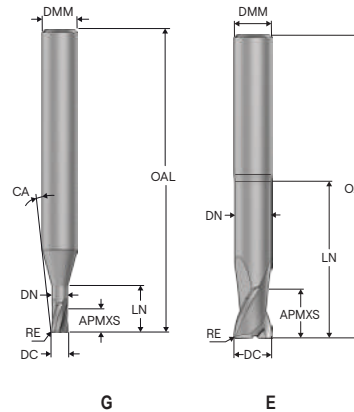
For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

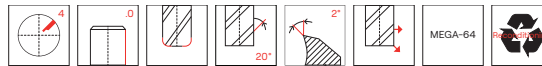


## JH120

High speed – Hardened steel – Square – 4 Flutes – Cylindrical – Corner radius



- Tolerances:
- DMM=h5
- DC= -0,02/-0,03 mm
- RE= ±0,01 mm
- Regrind possible if DC is ≥ Ø6



| Designation    | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | LN   | DN   | RE   | CA°  | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------|------|-------|------|------|------|------|------|-------|-------------|----------------|
|                |             |              |            | mm   | mm   | mm    | mm   | mm   | mm   | mm   |      |       |             |                |
| 120020-MEGA-64 | 00019437    | 2            | G          | 2,0  | 6,0  | 2,5   | 50,0 | 5,0  | 1,9  | 0,2  | 10,5 | 4     | Cylindrical | ■              |
| 120025-MEGA-64 | 00019448    | 2            | G          | 2,5  | 6,0  | 3,0   | 50,0 | 6,0  | 2,4  | 0,25 | 8,5  | 4     | Cylindrical | ■              |
| 120030-MEGA-64 | 00019450    | 2            | G          | 3,0  | 6,0  | 4,0   | 50,0 | 7,0  | 2,8  | 0,3  | 7,0  | 4     | Cylindrical | ■              |
| 120035-MEGA-64 | 00019460    | 2            | G          | 3,5  | 6,0  | 4,5   | 50,0 | 8,0  | 3,2  | 0,35 | 5,5  | 4     | Cylindrical | ■              |
| 120040-MEGA-64 | 00019462    | 2            | G          | 4,0  | 6,0  | 5,0   | 50,0 | 9,0  | 3,7  | 0,4  | 4,5  | 4     | Cylindrical | ■              |
| 120050-MEGA-64 | 00019476    | 2            | G          | 5,0  | 6,0  | 6,0   | 50,0 | 12,0 | 4,6  | 0,5  | 2,5  | 4     | Cylindrical | ■              |
| 120060-MEGA-64 | 00019479    | 2            | E          | 6,0  | 6,0  | 7,0   | 55,0 | 14,0 | 5,6  | 0,6  | —    | 4     | Cylindrical | ■              |
| 120080-MEGA-64 | 00019481    | 2            | E          | 8,0  | 8,0  | 10,0  | 60,0 | 18,0 | 7,4  | 0,8  | —    | 4     | Cylindrical | ■              |
| 120100-MEGA-64 | 00019494    | 2            | E          | 10,0 | 10,0 | 12,0  | 70,0 | 25,0 | 9,4  | 1,0  | —    | 4     | Cylindrical | ■              |
| 120120-MEGA-64 | 00019501    | 2            | E          | 12,0 | 12,0 | 15,0  | 80,0 | 30,0 | 11,4 | 1,2  | —    | 4     | Cylindrical | ■              |
| 120160-MEGA-64 | 00019503    | 2            | E          | 16,0 | 16,0 | 18,0  | 90,0 | 35,0 | 15,4 | 1,6  | —    | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH120 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>    |                  |                  |                  |                  |                  |                 |                 |                 |                 |                 | v <sub>c</sub>                      |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-------------------|------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------------------------|
|     |                                                                                   |                    |                    | 2                 | 2.5              | 3                | 3.5              | 4                | 5                | 6               | 8               | 10              | 12              | 16              |                                     |
| H3  | M                                                                                 | 0.0150<br>0,0150   | 0.50<br>0,50       | 0.0095<br>0,00038 | 0.012<br>0,00048 | 0.014<br>0,00055 | 0.016<br>0,00065 | 0.019<br>0,00075 | 0.024<br>0,00095 | 0.028<br>0,0011 | 0.038<br>0,0015 | 0.048<br>0,0019 | 0.055<br>0,0022 | 0.070<br>0,0028 | 90 (57 — 130)<br>295 (190 — 420)    |
| H5  | M                                                                                 | 0.0300<br>0,0300   | 1.0<br>1,0         | 0.012<br>0,00048  | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 215 (180 — 250)<br>710 (600 — 820)  |
| H7  | M                                                                                 | 0.0150<br>0,0150   | 0.50<br>0,50       | 0.0095<br>0,00038 | 0.012<br>0,00048 | 0.014<br>0,00055 | 0.016<br>0,00065 | 0.019<br>0,00075 | 0.024<br>0,00095 | 0.028<br>0,0011 | 0.038<br>0,0015 | 0.048<br>0,0019 | 0.055<br>0,0022 | 0.070<br>0,0028 | 90 (57 — 130)<br>295 (190 — 420)    |
| H8  | M                                                                                 | 0.0300<br>0,0300   | 1.0<br>1,0         | 0.012<br>0,00048  | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 215 (180 — 250)<br>710 (600 — 820)  |
| H11 | M                                                                                 | 0.0300<br>0,0300   | 1.0<br>1,0         | 0.012<br>0,00048  | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 275 (230 — 320)<br>900 (760 — 1000) |
| H12 | M                                                                                 | 0.0300<br>0,0300   | 1.0<br>1,0         | 0.012<br>0,00048  | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 250 (210 — 290)<br>820 (690 — 950)  |
| H21 | M                                                                                 | 0.0300<br>0,0300   | 1.0<br>1,0         | 0.012<br>0,00048  | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 215 (180 — 250)<br>710 (600 — 820)  |
| H31 | M                                                                                 | 0.0300<br>0,0300   | 1.0<br>1,0         | 0.012<br>0,00048  | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 0.095<br>0,0038 | 135 (120 — 150)<br>445 (400 — 490)  |

#### Cutting data – JH120 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                   |                   |                  |                  |                  |                  |                 |                 |                 | v <sub>c</sub>                     |
|-----|-----------------------------------------------------------------------------------|--------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                    | 2                 | 2.5               | 3                 | 3.5               | 4                | 5                | 6                | 8                | 10              | 12              | 16              |                                    |
| H3  | M                                                                                 | 0.050<br>0,050     | 0.0050<br>0,00020 | 0.0065<br>0,00026 | 0.0075<br>0,00030 | 0.0090<br>0,00036 | 0.010<br>0,00040 | 0.013<br>0,00050 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.038<br>0,0015 | 55 (34 — 78)<br>180 (120 — 250)    |
| H5  | M                                                                                 | 0.18<br>0,18       | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.014<br>0,00055  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 120 (98 — 140)<br>395 (330 — 450)  |
| H7  | M                                                                                 | 0.050<br>0,050     | 0.0050<br>0,00020 | 0.0065<br>0,00026 | 0.0075<br>0,00030 | 0.0090<br>0,00036 | 0.010<br>0,00040 | 0.013<br>0,00050 | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.025<br>0,0010 | 0.030<br>0,0012 | 0.038<br>0,0015 | 55 (34 — 78)<br>180 (120 — 250)    |
| H8  | M                                                                                 | 0.18<br>0,18       | 0.0060<br>0,00024 | 0.0075<br>0,00030 | 0.0090<br>0,00036 | 0.011<br>0,00044  | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 125 (110 — 140)<br>410 (370 — 450) |
| H11 | M                                                                                 | 0.18<br>0,18       | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.014<br>0,00055  | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 150 (130 — 170)<br>490 (430 — 550) |
| H12 | M                                                                                 | 0.18<br>0,18       | 0.0060<br>0,00024 | 0.0075<br>0,00030 | 0.0090<br>0,00036 | 0.011<br>0,00044  | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 145 (120 — 170)<br>475 (400 — 550) |
| H21 | M                                                                                 | 0.18<br>0,18       | 0.0060<br>0,00024 | 0.0075<br>0,00030 | 0.0090<br>0,00036 | 0.011<br>0,00044  | 0.012<br>0,00048 | 0.015<br>0,00060 | 0.018<br>0,00070 | 0.025<br>0,0010  | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 125 (110 — 140)<br>410 (370 — 450) |
| H31 | M                                                                                 | 0.18<br>0,18       | 0.0055<br>0,00022 | 0.0065<br>0,00026 | 0.0080<br>0,00032 | 0.0090<br>0,00036 | 0.011<br>0,00044 | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.022<br>0,00085 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.038<br>0,0015 | 80 (70 — 92)<br>260 (230 — 300)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

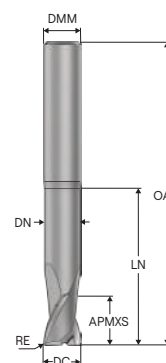
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

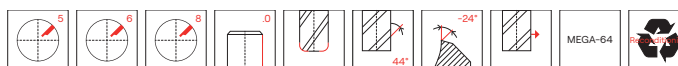
# JH130

High speed – Hardened steel – Square – 5-8 Flutes – Cylindrical – Corner radius



E

- Tolerances:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE=  $\pm 0,05$  mm
- Regrind possible



| Designation    | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
| 130060-MEGA-64 | 00019504    | 2            | E          | 6,0  | 6,0  | 6,0   | 55,0  | 12,0 | 5,6  | 0,2 | 5     | Cylindrical | ■              |
| 130080-MEGA-64 | 00019507    | 2            | E          | 8,0  | 8,0  | 8,0   | 60,0  | 16,0 | 7,4  | 0,2 | 5     | Cylindrical | ■              |
| 130100-MEGA-64 | 00019511    | 2            | E          | 10,0 | 10,0 | 10,0  | 70,0  | 20,0 | 9,4  | 0,3 | 6     | Cylindrical | ■              |
| 130120-MEGA-64 | 00019512    | 2            | E          | 12,0 | 12,0 | 12,0  | 80,0  | 24,0 | 11,4 | 0,5 | 6     | Cylindrical | ■              |
| 130160-MEGA-64 | 00019514    | 2            | E          | 16,0 | 16,0 | 16,0  | 90,0  | 30,0 | 15,4 | 0,5 | 8     | Cylindrical | ■              |
| 130200-MEGA-64 | 00019542    | 2            | E          | 20,0 | 20,0 | 20,0  | 100,0 | 35,0 | 19,2 | 0,5 | 8     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

## Stainless steel and S-materials

Non ferrous

## Hard

## Plastic and cfrp

Graphite

## X-Heads

Minimaster

## Cutting data – JH130 Side milling finishing

| SMG |   |  | $a_e/DC$         | $a_p/DC$     | $f_z$            |                  |                  |                 |                 |                 | $v_c$                                |
|-----|---|-----------------------------------------------------------------------------------|------------------|--------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|--------------------------------------|
|     |   |                                                                                   |                  |              | 6                | 8                | 10               | 12              | 16              | 20              |                                      |
| H3  | M |                                                                                   | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.013<br>0,00050 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.038<br>0,0015 | 85 (73 — 93)<br>280 (240 — 300)      |
| H5  | M |                                                                                   | 0.0300<br>0,0300 | 1.0<br>1,0   | 0.032<br>0,0013  | 0.042<br>0,0017  | 0.050<br>0,0020  | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 255 (240 — 270)<br>840 (790 — 880)   |
| H7  | M |                                                                                   | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.013<br>0,00050 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.038<br>0,0015 | 85 (73 — 93)<br>280 (240 — 300)      |
| H8  | M |                                                                                   | 0.0300<br>0,0300 | 1.0<br>1,0   | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.065<br>0,0026 | 260 (240 — 270)<br>850 (790 — 880)   |
| H11 | M |                                                                                   | 0.0300<br>0,0300 | 1.0<br>1,0   | 0.032<br>0,0013  | 0.042<br>0,0017  | 0.050<br>0,0020  | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 320 (300 — 340)<br>1050 (990 — 1100) |
| H12 | M |                                                                                   | 0.0300<br>0,0300 | 1.0<br>1,0   | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.065<br>0,0026 | 300 (280 — 320)<br>980 (920 — 1000)  |
| H21 | M |                                                                                   | 0.0300<br>0,0300 | 1.0<br>1,0   | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.065<br>0,0026 | 260 (240 — 270)<br>850 (790 — 880)   |
| H31 | M |                                                                                   | 0.0300<br>0,0300 | 1.0<br>1,0   | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 155 (140 — 170)<br>510 (460 — 550)   |

## Cutting data – JH130 Side milling roughing

| SMG |   |  | $a_e/DC$         | $a_p/DC$     | $f_z$            |                  |                  |                 |                 |                 | $v_c$                                |
|-----|---|-----------------------------------------------------------------------------------|------------------|--------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|--------------------------------------|
|     |   |                                                                                   |                  |              | 6                | 8                | 10               | 12              | 16              | 20              |                                      |
| H3  | M |                                                                                   | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.013<br>0,00050 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.038<br>0,0015 | 85 (73 — 93)<br>280 (240 — 300)      |
| H5  | M |                                                                                   | 0.0300<br>0,0300 | 1.0<br>1,0   | 0.032<br>0,0013  | 0.042<br>0,0017  | 0.050<br>0,0020  | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 255 (240 — 270)<br>840 (790 — 880)   |
| H7  | M |                                                                                   | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.013<br>0,00050 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.038<br>0,0015 | 85 (73 — 93)<br>280 (240 — 300)      |
| H8  | M |                                                                                   | 0.0300<br>0,0300 | 1.0<br>1,0   | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.065<br>0,0026 | 260 (240 — 270)<br>850 (790 — 880)   |
| H11 | M |                                                                                   | 0.0300<br>0,0300 | 1.0<br>1,0   | 0.032<br>0,0013  | 0.042<br>0,0017  | 0.050<br>0,0020  | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.090<br>0,0036 | 320 (300 — 340)<br>1050 (990 — 1100) |
| H12 | M |                                                                                   | 0.0300<br>0,0300 | 1.0<br>1,0   | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.065<br>0,0026 | 300 (280 — 320)<br>980 (920 — 1000)  |
| H21 | M |                                                                                   | 0.0300<br>0,0300 | 1.0<br>1,0   | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016  | 0.046<br>0,0018 | 0.060<br>0,0024 | 0.065<br>0,0026 | 260 (240 — 270)<br>850 (790 — 880)   |
| H31 | M |                                                                                   | 0.0300<br>0,0300 | 1.0<br>1,0   | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.050<br>0,0020  | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 155 (140 — 170)<br>510 (460 — 550)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

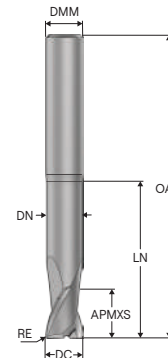
 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

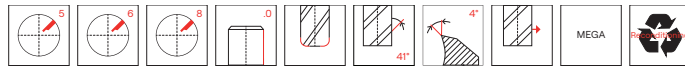
## JH930

High speed – Universal – Square – 5-8 Flutes – Cylindrical – Corner radius



E

- Tolerances:
- DMM=h5
- DC= -0,02/-0,04 mm
- RE= ±0,05 mm
- Regrind possible



| Designation     | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|-----------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
|                 |             |              |            | mm   | mm   | mm    | mm    | mm   | mm   | mm  |       |             |                |
| 930060R020-MEGA | 00022026    | 2            | E          | 6,0  | 6,0  | 9,0   | 55,0  | 15,0 | 5,6  | 0,2 | 5     | Cylindrical | ■              |
| 930060R050-MEGA | 00022027    | 2            | E          | 6,0  | 6,0  | 9,0   | 55,0  | 15,0 | 5,6  | 0,5 | 5     | Cylindrical | ■              |
| 930080R020-MEGA | 00022028    | 2            | E          | 8,0  | 8,0  | 12,0  | 60,0  | 18,0 | 7,4  | 0,2 | 5     | Cylindrical | ■              |
| 930080R050-MEGA | 00022029    | 2            | E          | 8,0  | 8,0  | 12,0  | 60,0  | 18,0 | 7,4  | 0,5 | 5     | Cylindrical | ■              |
| 930100R030-MEGA | 00022030    | 2            | E          | 10,0 | 10,0 | 15,0  | 70,0  | 25,0 | 9,4  | 0,3 | 6     | Cylindrical | ■              |
| 930100R100-MEGA | 00022031    | 2            | E          | 10,0 | 10,0 | 15,0  | 70,0  | 25,0 | 9,4  | 1,0 | 6     | Cylindrical | ■              |
| 930120R050-MEGA | 00022033    | 2            | E          | 12,0 | 12,0 | 18,0  | 80,0  | 30,0 | 11,4 | 0,5 | 6     | Cylindrical | ■              |
| 930120R100-MEGA | 00022034    | 2            | E          | 12,0 | 12,0 | 18,0  | 80,0  | 30,0 | 11,4 | 1,0 | 6     | Cylindrical | ■              |
| 930160R050-MEGA | 00022035    | 2            | E          | 16,0 | 16,0 | 24,0  | 90,0  | 35,0 | 15,4 | 0,5 | 8     | Cylindrical | ■              |
| 930160R100-MEGA | 00022040    | 2            | E          | 16,0 | 16,0 | 24,0  | 90,0  | 35,0 | 15,4 | 1,0 | 8     | Cylindrical | ■              |
| 930200R050-MEGA | 00022044    | 2            | E          | 20,0 | 20,0 | 30,0  | 100,0 | 38,0 | 19,2 | 0,5 | 8     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JH930 Side milling

|                                 | SMG |  | $a_e/DC$         | $a_p/DC$     | $f_z$            |                  |                 |                 |                 |                 | $v_c$                                 |
|---------------------------------|-----|-----------------------------------------------------------------------------------|------------------|--------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|                                 |     |                                                                                   |                  |              | 6                | 8                | 10              | 12              | 16              | 20              |                                       |
| Universal                       | P1  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.065<br>0,0026  | 0.085<br>0,0034  | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.16<br>0,0065  | 0.18<br>0,0070  | 440 (370 — 490)<br>1450 (1300 — 1600) |
|                                 | P2  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.065<br>0,0026  | 0.090<br>0,0036  | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.16<br>0,0065  | 0.19<br>0,0075  | 430 (360 — 480)<br>1400 (1200 — 1500) |
| Steel and cast iron             | P3  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.085<br>0,0034  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070  | 375 (320 — 420)<br>1225 (1100 — 1300) |
|                                 | P4  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 330 (280 — 370)<br>1075 (920 — 1200)  |
|                                 | P5  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 315 (270 — 350)<br>1025 (890 — 1100)  |
|                                 | P6  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 355 (300 — 390)<br>1175 (990 — 1200)  |
| Stainless steel and S-materials | P7  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 335 (280 — 370)<br>1100 (920 — 1200)  |
|                                 | P8  | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.085<br>0,0034  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.18<br>0,0070  | 315 (270 — 350)<br>1025 (890 — 1100)  |
|                                 | P11 | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 325 (280 — 360)<br>1075 (920 — 1100)  |
|                                 | P12 | M/E/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.040<br>0,0016  | 0.055<br>0,0022  | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.11<br>0,0044  | 200 (170 — 220)<br>660 (560 — 720)    |
| Non ferrous                     | K1  | E/M/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 255 (210 — 300)<br>840 (690 — 980)    |
|                                 | K2  | E/M/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.055<br>0,0022  | 0.075<br>0,0030  | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 225 (180 — 260)<br>740 (600 — 850)    |
|                                 | K3  | E/M/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.055<br>0,0022  | 0.075<br>0,0030  | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 190 (160 — 220)<br>620 (530 — 720)    |
|                                 | K4  | E/M/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.055<br>0,0022  | 0.075<br>0,0030  | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 180 (150 — 210)<br>590 (500 — 680)    |
| Hard                            | K5  | E/M/A                                                                             | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 205 (160 — 250)<br>670 (530 — 820)    |
|                                 | K6  | E/M/A                                                                             | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.065<br>0,0026  | 0.090<br>0,0036  | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.16<br>0,0065  | 0.19<br>0,0075  | 300 (230 — 370)<br>980 (760 — 1200)   |
|                                 | K7  | E/M/A                                                                             | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 260 (200 — 320)<br>850 (660 — 1000)   |
|                                 | S1  | E/M/A                                                                             | 0.0300<br>0,0300 | 0.44<br>0,44 | 0.055<br>0,0022  | 0.070<br>0,0028  | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 80 (62 — 100)<br>260 (210 — 320)      |
| Plastic and cfrp                | S2  | E/M/A                                                                             | 0.0300<br>0,0300 | 0.44<br>0,44 | 0.055<br>0,0022  | 0.070<br>0,0028  | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 65 (50 — 82)<br>215 (170 — 260)       |
|                                 | S3  | E/M/A                                                                             | 0.0200<br>0,0200 | 0.70<br>0,70 | 0.055<br>0,0022  | 0.070<br>0,0028  | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 0.15<br>0,0060  | 41 (31 — 50)<br>135 (110 — 160)       |
|                                 | S11 | E/M/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 160 (140 — 180)<br>520 (460 — 590)    |
|                                 | S12 | E/M/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.060<br>0,0024  | 0.080<br>0,0032  | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 0.17<br>0,0065  | 120 (110 — 140)<br>395 (370 — 450)    |
| Graphite                        | S13 | E/M/A                                                                             | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.050<br>0,0020  | 0.070<br>0,0028  | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.13<br>0,0050  | 0.15<br>0,0060  | 95 (81 — 110)<br>310 (270 — 360)      |
|                                 | H3  | M/A                                                                               | 0.0200<br>0,0200 | 0.50<br>0,50 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 55 (41 — 71)<br>180 (140 — 230)       |
|                                 | H5  | M/A                                                                               | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 250 (210 — 300)<br>820 (690 — 980)    |
|                                 | H7  | M/A                                                                               | 0.0200<br>0,0200 | 0.50<br>0,50 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 55 (41 — 71)<br>180 (140 — 230)       |
| X-Heads                         | H8  | M/A                                                                               | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 255 (210 — 300)<br>840 (690 — 980)    |
|                                 | H11 | M/A                                                                               | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 320 (260 — 380)<br>1050 (860 — 1200)  |
|                                 | H12 | M/A                                                                               | 0.0400<br>0,0400 | 0.70<br>0,70 | 0.030<br>0,0012  | 0.042<br>0,0017  | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.075<br>0,0030 | 0.085<br>0,0034 | 270 (220 — 320)<br>890 (730 — 1000)   |
|                                 | H21 | M/A                                                                               | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.018<br>0,00070 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.050<br>0,0020 | 255 (210 — 300)<br>840 (690 — 980)    |
| Minimaster                      | H31 | M/A                                                                               | 0.0300<br>0,0300 | 0.50<br>0,50 | 0.024<br>0,00095 | 0.032<br>0,0013  | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.070<br>0,0028 | 155 (130 — 180)<br>510 (430 — 590)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

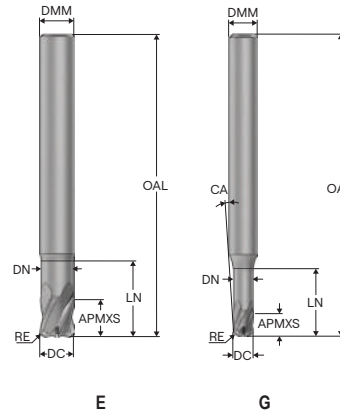
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

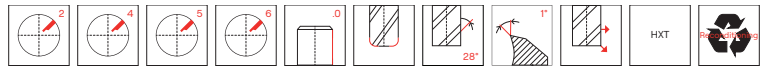
All cutting data are target values

## JH142

High speed – High precision – Torical – Hardened steel – 2-6 Flutes – Cylindrical – Corner radius



- Tolerances:
- Run-out= <0,005 mm
- DMM= h5
- DC= 0-0,01 mm
- RE= ±0,005 mm
- Regrind possible if DC is ≥Ø6



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | LN   | DN   | RE  | CA°  | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|------|------|------|-----|------|-------|-------------|----------------|
|                        |             |              |            | mm   | mm   | mm    | mm   | mm   | mm   | mm  |      |       |             |                |
| JH142020G2R030.0Z2-HXT | 02968223    | 2            | G          | 2,0  | 4,0  | 2,0   | 40,0 | 6,0  | 1,9  | 0,3 | 6,64 | 2     | Cylindrical | ■              |
| JH142020G2R030.0Z4-HXT | 02968224    | 2            | G          | 2,0  | 4,0  | 2,0   | 40,0 | 6,0  | 1,9  | 0,3 | 6,64 | 4     | Cylindrical | ■              |
| JH142020G2R050.0Z2-HXT | 02968225    | 2            | G          | 2,0  | 4,0  | 2,0   | 40,0 | 6,0  | 1,9  | 0,5 | 6,79 | 2     | Cylindrical | ■              |
| JH142020G2R050.0Z4-HXT | 02968226    | 2            | G          | 2,0  | 4,0  | 2,0   | 40,0 | 6,0  | 1,9  | 0,5 | 6,79 | 4     | Cylindrical | ■              |
| JH142030G2R050.0Z2-HXT | 02968227    | 2            | G          | 3,0  | 4,0  | 3,0   | 40,0 | 8,0  | 2,8  | 0,5 | 2,95 | 2     | Cylindrical | ■              |
| JH142030G2R050.0Z4-HXT | 02968228    | 2            | G          | 3,0  | 4,0  | 3,0   | 40,0 | 8,0  | 2,8  | 0,5 | 2,95 | 4     | Cylindrical | ■              |
| JH142030G2R100.0Z2-HXT | 02968229    | 2            | G          | 3,0  | 4,0  | 3,0   | 40,0 | 8,0  | 2,8  | 1,0 | 3,1  | 2     | Cylindrical | ■              |
| JH142030G2R100.0Z4-HXT | 02968230    | 2            | G          | 3,0  | 4,0  | 3,0   | 40,0 | 8,0  | 2,8  | 1,0 | 3,1  | 4     | Cylindrical | ■              |
| JH142040G2R030.0Z2-HXT | 02968231    | 2            | G          | 4,0  | 6,0  | 4,0   | 50,0 | 8,0  | 3,7  | 0,3 | 5,34 | 2     | Cylindrical | ■              |
| JH142040G2R030.0Z4-HXT | 02970110    | 2            | G          | 4,0  | 6,0  | 4,0   | 50,0 | 8,0  | 3,7  | 0,3 | 5,34 | 4     | Cylindrical | ■              |
| JH142040G2R050.0Z4-HXT | 02968232    | 2            | G          | 4,0  | 6,0  | 4,0   | 50,0 | 8,0  | 3,7  | 0,5 | 5,44 | 4     | Cylindrical | ■              |
| JH142040G2R100.0Z4-HXT | 02968233    | 2            | G          | 4,0  | 6,0  | 4,0   | 50,0 | 8,0  | 3,7  | 1,0 | 5,69 | 4     | Cylindrical | ■              |
| JH142060E2R050.0Z4-HXT | 02968235    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0 | 12,0 | 5,6  | 0,5 | —    | 4     | Cylindrical | ■              |
| JH142060E2R100.0Z4-HXT | 02968237    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0 | 12,0 | 5,6  | 1,0 | —    | 4     | Cylindrical | ■              |
| JH142060E2R100.0Z5-HXT | 02968238    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0 | 12,0 | 5,6  | 1,0 | —    | 5     | Cylindrical | ■              |
| JH142060E2R150.0Z5-HXT | 02968240    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0 | 12,0 | 5,6  | 1,5 | —    | 5     | Cylindrical | ■              |
| JH142060E2R200.0Z5-HXT | 02968241    | 2            | E          | 6,0  | 6,0  | 6,0   | 50,0 | 12,0 | 5,6  | 2,0 | —    | 5     | Cylindrical | ■              |
| JH142080E2R050.0Z5-HXT | 02968242    | 2            | E          | 8,0  | 8,0  | 8,0   | 60,0 | 16,0 | 7,4  | 0,5 | —    | 5     | Cylindrical | ■              |
| JH142080E2R100.0Z5-HXT | 02968243    | 2            | E          | 8,0  | 8,0  | 8,0   | 60,0 | 16,0 | 7,4  | 1,0 | —    | 5     | Cylindrical | ■              |
| JH142080E2R150.0Z5-HXT | 02968244    | 2            | E          | 8,0  | 8,0  | 8,0   | 60,0 | 16,0 | 7,4  | 1,5 | —    | 5     | Cylindrical | ■              |
| JH142080E2R200.0Z5-HXT | 02968245    | 2            | E          | 8,0  | 8,0  | 8,0   | 60,0 | 16,0 | 7,4  | 2,0 | —    | 5     | Cylindrical | ■              |
| JH142080E2R300.0Z5-HXT | 02968246    | 2            | E          | 8,0  | 8,0  | 8,0   | 60,0 | 16,0 | 7,4  | 3,0 | —    | 5     | Cylindrical | ■              |
| JH142100E2R050.0Z5-HXT | 02968247    | 2            | E          | 10,0 | 10,0 | 10,0  | 70,0 | 20,0 | 9,4  | 0,5 | —    | 5     | Cylindrical | ■              |
| JH142100E2R100.0Z5-HXT | 02968248    | 2            | E          | 10,0 | 10,0 | 10,0  | 70,0 | 20,0 | 9,4  | 1,0 | —    | 5     | Cylindrical | ■              |
| JH142100E2R200.0Z5-HXT | 02968249    | 2            | E          | 10,0 | 10,0 | 10,0  | 70,0 | 20,0 | 9,4  | 2,0 | —    | 5     | Cylindrical | ■              |
| JH142100E2R250.0Z5-HXT | 02968250    | 2            | E          | 10,0 | 10,0 | 10,0  | 70,0 | 20,0 | 9,4  | 2,5 | —    | 5     | Cylindrical | ■              |
| JH142120E2R100.0Z6-HXT | 02968251    | 2            | E          | 12,0 | 12,0 | 12,0  | 75,0 | 24,0 | 11,4 | 1,0 | —    | 6     | Cylindrical | ■              |
| JH142120E2R200.0Z6-HXT | 02968252    | 2            | E          | 12,0 | 12,0 | 12,0  | 75,0 | 24,0 | 11,4 | 2,0 | —    | 6     | Cylindrical | ■              |
| JH142120E2R300.0Z6-HXT | 02968253    | 2            | E          | 12,0 | 12,0 | 12,0  | 75,0 | 24,0 | 11,4 | 3,0 | —    | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

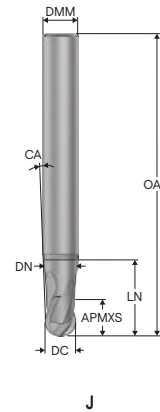
Graphite

X-Heads

Minimaster

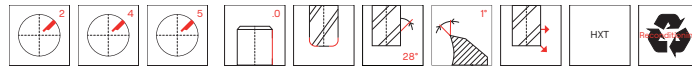
### JH142

High speed – High precision – Torical – Hardened steel – 2-5 Flutes – Cylindrical – Corner radius



J

- Tolerances:  
 —Run-out= <0,005 mm  
 —DMM= h5  
 —DC= 0-0,01 mm  
 —RE= ±0,005 mm  
 —Regrind possible if DC is ≥Ø6



| Designation            | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN  | RE  | CA°  | NA° | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|------|------|-------|-------|------|-----|-----|------|-----|-------|-------------|----------------|
|                        |             |              |            | mm   | mm   | mm    | mm    | mm   | mm  | mm  |      |     |       |             |                |
| JH142020J3R030.0Z2-HXT | 02968255    | 3            | J          | 2,0  | 6,0  | 2,0   | 60,0  | 10,0 | 1,9 | 0,3 | 6,72 | 0,9 | 2     | Cylindrical | ■              |
| JH142020J3R030.0Z4-HXT | 02968256    | 3            | J          | 2,0  | 6,0  | 2,0   | 60,0  | 10,0 | 1,9 | 0,3 | 6,72 | 0,9 | 4     | Cylindrical | ■              |
| JH142020J3R050.0Z2-HXT | 02968257    | 3            | J          | 2,0  | 6,0  | 2,0   | 60,0  | 10,0 | 1,9 | 0,5 | 6,79 | 0,9 | 2     | Cylindrical | ■              |
| JH142020J3R050.0Z4-HXT | 02968258    | 3            | J          | 2,0  | 6,0  | 2,0   | 60,0  | 10,0 | 1,9 | 0,5 | 6,79 | 0,9 | 4     | Cylindrical | ■              |
| JH142030J3R050.0Z2-HXT | 02968259    | 3            | J          | 3,0  | 6,0  | 3,0   | 60,0  | 15,0 | 2,8 | 0,5 | 4,3  | 0,9 | 2     | Cylindrical | ■              |
| JH142030J3R050.0Z4-HXT | 02968260    | 3            | J          | 3,0  | 6,0  | 3,0   | 60,0  | 15,0 | 2,8 | 0,5 | 4,3  | 0,9 | 4     | Cylindrical | ■              |
| JH142030J3R100.0Z2-HXT | 02968261    | 3            | J          | 3,0  | 6,0  | 3,0   | 60,0  | 15,0 | 2,8 | 1,0 | 4,4  | 0,9 | 2     | Cylindrical | ■              |
| JH142030J3R100.0Z4-HXT | 02968262    | 3            | J          | 3,0  | 6,0  | 3,0   | 60,0  | 15,0 | 2,8 | 1,0 | 4,4  | 0,9 | 4     | Cylindrical | ■              |
| JH142040J3R030.0Z2-HXT | 02968263    | 3            | J          | 4,0  | 6,0  | 4,0   | 60,0  | 20,0 | 3,7 | 0,3 | 2,45 | 0,9 | 2     | Cylindrical | ■              |
| JH142040J3R030.0Z4-HXT | 02970111    | 3            | J          | 4,0  | 6,0  | 4,0   | 60,0  | 20,0 | 3,7 | 0,3 | 2,45 | 0,9 | 4     | Cylindrical | ■              |
| JH142040J3R050.0Z2-HXT | 02968265    | 3            | J          | 4,0  | 6,0  | 4,0   | 60,0  | 20,0 | 3,7 | 0,5 | 2,48 | 0,9 | 2     | Cylindrical | ■              |
| JH142040J3R050.0Z4-HXT | 02968264    | 3            | J          | 4,0  | 6,0  | 4,0   | 60,0  | 20,0 | 3,7 | 0,5 | 2,48 | 0,9 | 4     | Cylindrical | ■              |
| JH142040J3R100.0Z2-HXT | 02968266    | 3            | J          | 4,0  | 6,0  | 4,0   | 60,0  | 20,0 | 3,7 | 1,0 | 2,53 | 0,9 | 2     | Cylindrical | ■              |
| JH142040J3R100.0Z4-HXT | 02968267    | 3            | J          | 4,0  | 6,0  | 4,0   | 60,0  | 20,0 | 3,7 | 1,0 | 2,53 | 0,9 | 4     | Cylindrical | ■              |
| JH142060J3R050.0Z4-HXT | 02968268    | 3            | J          | 6,0  | 8,0  | 6,0   | 75,0  | 30,0 | 5,6 | 0,5 | 1,75 | 0,9 | 4     | Cylindrical | ■              |
| JH142060J3R050.0Z5-HXT | 02968269    | 3            | J          | 6,0  | 8,0  | 6,0   | 75,0  | 30,0 | 5,6 | 0,5 | 1,75 | 0,9 | 5     | Cylindrical | ■              |
| JH142060J3R100.0Z4-HXT | 02968270    | 3            | J          | 6,0  | 8,0  | 6,0   | 75,0  | 30,0 | 5,6 | 1,0 | 1,77 | 0,9 | 4     | Cylindrical | ■              |
| JH142060J3R100.0Z5-HXT | 02968271    | 3            | J          | 6,0  | 8,0  | 6,0   | 75,0  | 30,0 | 5,6 | 1,0 | 1,77 | 0,9 | 5     | Cylindrical | ■              |
| JH142060J3R150.0Z5-HXT | 02968272    | 3            | J          | 6,0  | 8,0  | 6,0   | 75,0  | 30,0 | 5,6 | 1,5 | 1,8  | 0,9 | 5     | Cylindrical | ■              |
| JH142060J3R200.0Z5-HXT | 02968273    | 3            | J          | 6,0  | 8,0  | 6,0   | 75,0  | 30,0 | 5,6 | 2,0 | 1,83 | 0,9 | 5     | Cylindrical | ■              |
| JH142080J3R050.0Z5-HXT | 02968274    | 3            | J          | 8,0  | 10,0 | 8,0   | 85,0  | 40,0 | 7,4 | 0,5 | 1,34 | 0,9 | 5     | Cylindrical | ■              |
| JH142080J3R100.0Z5-HXT | 02968275    | 3            | J          | 8,0  | 10,0 | 8,0   | 85,0  | 40,0 | 7,4 | 1,0 | 1,36 | 0,9 | 5     | Cylindrical | ■              |
| JH142080J3R150.0Z5-HXT | 02968276    | 3            | J          | 8,0  | 10,0 | 8,0   | 85,0  | 40,0 | 7,4 | 1,5 | 1,37 | 0,9 | 5     | Cylindrical | ■              |
| JH142080J3R200.0Z5-HXT | 02968277    | 3            | J          | 8,0  | 10,0 | 8,0   | 85,0  | 40,0 | 7,4 | 2,0 | 1,39 | 0,9 | 5     | Cylindrical | ■              |
| JH142100J3R050.0Z5-HXT | 02968278    | 3            | J          | 10,0 | 12,0 | 10,0  | 100,0 | 50,0 | 9,4 | 0,5 | 1,1  | 0,9 | 5     | Cylindrical | ■              |
| JH142100J3R100.0Z5-HXT | 02968279    | 3            | J          | 10,0 | 12,0 | 10,0  | 100,0 | 50,0 | 9,4 | 1,0 | 1,11 | 0,9 | 5     | Cylindrical | ■              |
| JH142100J3R200.0Z5-HXT | 02968280    | 3            | J          | 10,0 | 12,0 | 10,0  | 100,0 | 50,0 | 9,4 | 2,0 | 1,13 | 0,9 | 5     | Cylindrical | ■              |
| JH142020J6R030.0Z4-HXT | 02968282    | 6            | J          | 2,0  | 6,0  | 2,0   | 75,0  | 20,0 | 1,9 | 0,3 | 4,33 | 0,9 | 4     | Cylindrical | ■              |
| JH142020J6R050.0Z4-HXT | 02968283    | 6            | J          | 2,0  | 6,0  | 2,0   | 75,0  | 20,0 | 1,9 | 0,5 | 4,36 | 0,9 | 4     | Cylindrical | ■              |
| JH142030J6R050.0Z4-HXT | 02968284    | 6            | J          | 3,0  | 6,0  | 3,0   | 75,0  | 30,0 | 2,8 | 0,5 | 2,52 | 0,9 | 4     | Cylindrical | ■              |
| JH142030J6R100.0Z4-HXT | 02968285    | 6            | J          | 3,0  | 6,0  | 3,0   | 75,0  | 30,0 | 2,8 | 1,0 | 2,56 | 0,9 | 4     | Cylindrical | ■              |
| JH142040J6R030.0Z4-HXT | 02968286    | 6            | J          | 4,0  | 6,0  | 4,0   | 80,0  | 40,0 | 3,7 | 0,3 | 1,36 | 0,9 | 4     | Cylindrical | ■              |
| JH142040J6R050.0Z4-HXT | 02968287    | 6            | J          | 4,0  | 6,0  | 4,0   | 80,0  | 40,0 | 3,7 | 0,5 | 1,37 | 0,9 | 4     | Cylindrical | ■              |
| JH142040J6R100.0Z4-HXT | 02968288    | 6            | J          | 4,0  | 6,0  | 4,0   | 80,0  | 40,0 | 3,7 | 1,0 | 1,38 | 0,9 | 4     | Cylindrical | ■              |

■ Stocked standard.



## Cutting data – JH142 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$       | $f_z$             |                  |                  |                 |                 |                 |                 |                 | $v_c$                                 |                                 |
|-----|-----------------------------------------------------------------------------------|------------------|----------------|-------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                  |                | 2                 | 3                | 4                | 6               | 8               | 10              | 12              | 16              |                                       |                                 |
| P1  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.020<br>0,00080  | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.14<br>0,0055  | 485 (460 — 530)<br>1600 (1600 — 1700) | Universal                       |
| P2  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.020<br>0,00080  | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 470 (450 — 520)<br>1550 (1500 — 1700) | Steel and cast iron             |
| P3  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.019<br>0,00075  | 0.028<br>0,0011  | 0.038<br>0,0015  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.14<br>0,0055  | 405 (390 — 450)<br>1325 (1300 — 1400) | Steel and cast iron             |
| P4  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.019<br>0,00075  | 0.028<br>0,0011  | 0.038<br>0,0015  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.14<br>0,0055  | 360 (340 — 390)<br>1175 (1200 — 1200) | Steel and cast iron             |
| P5  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.018<br>0,00070  | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 345 (330 — 380)<br>1125 (1100 — 1200) | Steel and cast iron             |
| P6  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.018<br>0,00070  | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 385 (370 — 420)<br>1275 (1300 — 1300) | Stainless steel and S-materials |
| P7  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.018<br>0,00070  | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 365 (350 — 400)<br>1200 (1200 — 1300) | Stainless steel and S-materials |
| P8  | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.019<br>0,00075  | 0.028<br>0,0011  | 0.038<br>0,0015  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.095<br>0,0038 | 0.11<br>0,0044  | 0.14<br>0,0055  | 340 (330 — 380)<br>1125 (1100 — 1200) | Stainless steel and S-materials |
| P11 | M/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.018<br>0,00070  | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 355 (340 — 390)<br>1175 (1200 — 1200) | Stainless steel and S-materials |
| K1  | A/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.018<br>0,00070  | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 345 (330 — 380)<br>1125 (1100 — 1200) | Non ferrous                     |
| K2  | A/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.017<br>0,00065  | 0.025<br>0,0010  | 0.034<br>0,0013  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 300 (290 — 330)<br>980 (960 — 1000)   | Non ferrous                     |
| K3  | A/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.017<br>0,00065  | 0.025<br>0,0010  | 0.034<br>0,0013  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 255 (240 — 280)<br>840 (790 — 910)    | Non ferrous                     |
| K4  | A/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.017<br>0,00065  | 0.025<br>0,0010  | 0.034<br>0,0013  | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.12<br>0,0048  | 245 (230 — 260)<br>800 (760 — 850)    | Non ferrous                     |
| K5  | A/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.018<br>0,00070  | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 345 (330 — 380)<br>1125 (1100 — 1200) | Hard                            |
| K6  | A/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.020<br>0,00080  | 0.030<br>0,0012  | 0.040<br>0,0016  | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 0.15<br>0,0060  | 500 (480 — 550)<br>1650 (1600 — 1800) | Hard                            |
| K7  | A/E                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.018<br>0,00070  | 0.028<br>0,0011  | 0.036<br>0,0014  | 0.055<br>0,0022 | 0.075<br>0,0030 | 0.090<br>0,0036 | 0.11<br>0,0044  | 0.13<br>0,0050  | 440 (420 — 490)<br>1450 (1400 — 1600) | Hard                            |
| H3  | M/A                                                                               | 0.0200<br>0,0200 | 0.020<br>0,020 | 0.014<br>0,00055  | 0.020<br>0,00080 | 0.028<br>0,0011  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 95 (72 — 110)<br>310 (240 — 360)      | Plastic and cfpr                |
| H5  | M/A                                                                               | 0.0400<br>0,0400 | 0.040<br>0,040 | 0.014<br>0,00055  | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 305 (290 — 330)<br>1000 (960 — 1000)  | Plastic and cfpr                |
| H7  | M/A                                                                               | 0.0200<br>0,0200 | 0.020<br>0,020 | 0.014<br>0,00055  | 0.020<br>0,00080 | 0.028<br>0,0011  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.080<br>0,0032 | 0.10<br>0,0040  | 95 (72 — 110)<br>310 (240 — 360)      | Plastic and cfpr                |
| H8  | M/A                                                                               | 0.0400<br>0,0400 | 0.040<br>0,040 | 0.011<br>0,00044  | 0.016<br>0,00065 | 0.022<br>0,00085 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 310 (290 — 330)<br>1025 (960 — 1000)  | Plastic and cfpr                |
| H11 | M/A                                                                               | 0.0400<br>0,0400 | 0.040<br>0,040 | 0.014<br>0,00055  | 0.022<br>0,00085 | 0.028<br>0,0011  | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 390 (360 — 420)<br>1275 (1200 — 1300) | Plastic and cfpr                |
| H12 | M/A                                                                               | 0.0500<br>0,0500 | 0.050<br>0,050 | 0.0095<br>0,00038 | 0.014<br>0,00055 | 0.019<br>0,00075 | 0.028<br>0,0011 | 0.038<br>0,0015 | 0.046<br>0,0018 | 0.055<br>0,0022 | 0.070<br>0,0028 | 345 (320 — 370)<br>1125 (1100 — 1200) | Plastic and cfpr                |
| H21 | M/A                                                                               | 0.0400<br>0,0400 | 0.040<br>0,040 | 0.011<br>0,00044  | 0.016<br>0,00065 | 0.022<br>0,00085 | 0.032<br>0,0013 | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.080<br>0,0032 | 310 (290 — 330)<br>1025 (960 — 1000)  | Graphite                        |
| H31 | M/A                                                                               | 0.0300<br>0,0300 | 0.030<br>0,030 | 0.013<br>0,00050  | 0.019<br>0,00075 | 0.025<br>0,0010  | 0.038<br>0,0015 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.090<br>0,0036 | 140 (120 — 160)<br>460 (400 — 520)    | Graphite                        |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

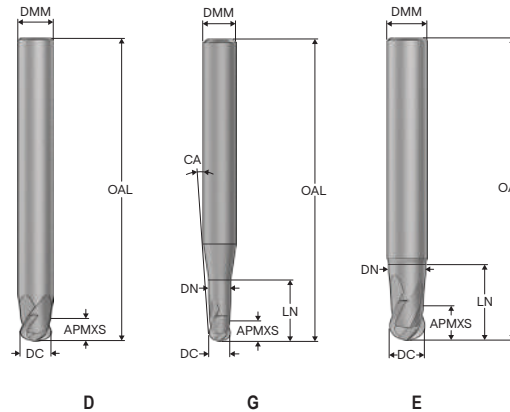
All cutting data are target values

X-Heads

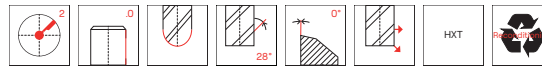
Minimaster

JH112

High speed – High precision – Hardened steel – Ball nose – 2 Flutes – Cylindrical



- Tolerances:  
 —Run-out= <0,005 mm  
 —DMM= h5  
 —DC= 0-0,01 mm  
 —RE= ±0,005 mm  
 —Regrind possible if DC is ≥Ø6

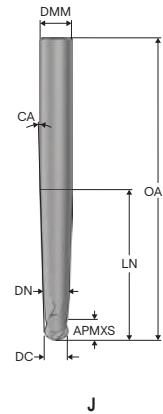


| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE   | CA°  | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|------|------|------|-------|-------------|----------------|
| JH112020G1B.0Z2-HXT | 02970112    | 1            | G          | mm   | mm   | mm    | mm    | mm   | mm   | mm   | mm   | mm    | mm          | mm             |
| JH112030G1B.0Z2-HXT | 02970113    | 1            | G          | 2,0  | 4,0  | 2,0   | 40,0  | 4,0  | 1,9  | 1,0  | 6,45 | 2     | Cylindrical | ■              |
| JH112040D1B.0Z2-HXT | 02970114    | 1            | D          | 3,0  | 4,0  | 3,0   | 40,0  | 6,0  | 2,8  | 1,5  | 3,3  | 2     | Cylindrical | ■              |
| JH112050G1B.0Z2-HXT | 02970115    | 1            | G          | 4,0  | 4,0  | 4,0   | 40,0  | —    | —    | 2,0  | —    | 2     | Cylindrical | ■              |
| JH112060D1B.0Z2-HXT | 02970116    | 1            | G          | 5,0  | 6,0  | 5,0   | 50,0  | 10,0 | 4,6  | 2,5  | 2,0  | 2     | Cylindrical | ■              |
| JH112080D1B.0Z2-HXT | 02970117    | 1            | D          | 6,0  | 6,0  | 6,0   | 50,0  | —    | —    | 3,0  | —    | 2     | Cylindrical | ■              |
| JH112100D1B.0Z2-HXT | 02970118    | 1            | D          | 8,0  | 8,0  | 8,0   | 65,0  | —    | —    | 4,0  | —    | 2     | Cylindrical | ■              |
| JH112100D1B.0Z2-HXT | 02970118    | 1            | D          | 10,0 | 10,0 | 10,0  | 65,0  | —    | —    | 5,0  | —    | 2     | Cylindrical | ■              |
| JH112020G2B.0Z2-HXT | 02970119    | 2            | G          | 2,0  | 3,0  | 2,0   | 50,0  | 10,0 | 1,9  | 1,0  | 2,5  | 2     | Cylindrical | ■              |
| JH112030D2B.0Z2-HXT | 02970120    | 2            | D          | 3,0  | 3,0  | 3,0   | 50,0  | —    | —    | 1,5  | —    | 2     | Cylindrical | ■              |
| JH112040D2B.0Z2-HXT | 02970121    | 2            | D          | 4,0  | 4,0  | 4,0   | 60,0  | —    | —    | 2,0  | —    | 2     | Cylindrical | ■              |
| JH112050D2B.0Z2-HXT | 02970122    | 2            | D          | 5,0  | 5,0  | 5,0   | 60,0  | —    | —    | 2,5  | —    | 2     | Cylindrical | ■              |
| JH112060D2B.0Z2-HXT | 02970123    | 2            | D          | 6,0  | 6,0  | 6,0   | 75,0  | —    | —    | 3,0  | —    | 2     | Cylindrical | ■              |
| JH112020G3B.0Z2-HXT | 02970124    | 3            | G          | 2,0  | 6,0  | 2,0   | 60,0  | 4,0  | 1,9  | 1,0  | 8,12 | 2     | Cylindrical | ■              |
| JH112025G3B.0Z2-HXT | 02970125    | 3            | G          | 2,5  | 6,0  | 2,5   | 60,0  | 5,0  | 2,4  | 1,25 | 7,39 | 2     | Cylindrical | ■              |
| JH112030G3B.0Z2-HXT | 02970126    | 3            | G          | 3,0  | 6,0  | 3,0   | 60,0  | 6,0  | 2,8  | 1,5  | 5,5  | 2     | Cylindrical | ■              |
| JH112035G3B.0Z2-HXT | 02968289    | 3            | G          | 3,5  | 6,0  | 3,5   | 65,0  | 7,0  | 3,2  | 1,75 | 3,81 | 2     | Cylindrical | ■              |
| JH112040G3B.0Z2-HXT | 02970127    | 3            | G          | 4,0  | 6,0  | 4,0   | 65,0  | 8,0  | 3,7  | 2,0  | 3,34 | 2     | Cylindrical | ■              |
| JH112050G3B.0Z2-HXT | 02970128    | 3            | G          | 5,0  | 6,0  | 5,0   | 65,0  | 10,0 | 4,6  | 2,5  | 2,0  | 2     | Cylindrical | ■              |
| JH112060G3B.0Z2-HXT | 02970129    | 3            | G          | 6,0  | 8,0  | 6,0   | 75,0  | 12,0 | 5,6  | 3,0  | 2,78 | 2     | Cylindrical | ■              |
| JH112080E3B.0Z2-HXT | 02968290    | 3            | E          | 8,0  | 8,0  | 8,0   | 75,0  | 16,0 | 7,4  | 4,0  | —    | 2     | Cylindrical | ■              |
| JH112100E3B.0Z2-HXT | 02968291    | 3            | E          | 10,0 | 10,0 | 10,0  | 80,0  | 20,0 | 9,4  | 5,0  | —    | 2     | Cylindrical | ■              |
| JH112120E3B.0Z2-HXT | 02968292    | 3            | E          | 12,0 | 12,0 | 12,0  | 90,0  | 24,0 | 11,4 | 6,0  | —    | 2     | Cylindrical | ■              |
| JH112020G4B.0Z2-HXT | 02970130    | 4            | G          | 2,0  | 6,0  | 2,0   | 80,0  | 20,0 | 1,9  | 1,0  | 3,82 | 2     | Cylindrical | ■              |
| JH112030G4B.0Z2-HXT | 02970131    | 4            | G          | 3,0  | 6,0  | 3,0   | 80,0  | 20,0 | 2,8  | 1,5  | 2,91 | 2     | Cylindrical | ■              |
| JH112040G4B.0Z2-HXT | 02970132    | 4            | G          | 4,0  | 6,0  | 4,0   | 80,0  | 20,0 | 3,7  | 2,0  | 1,97 | 2     | Cylindrical | ■              |
| JH112050G4B.0Z2-HXT | 02970133    | 4            | G          | 5,0  | 6,0  | 5,0   | 100,0 | 50,0 | 4,6  | 2,5  | 0,53 | 2     | Cylindrical | ■              |
| JH112060D4B.0Z2-HXT | 02968293    | 4            | D          | 6,0  | 6,0  | 6,0   | 100,0 | —    | —    | 3,0  | —    | 2     | Cylindrical | ■              |
| JH112080D4B.0Z2-HXT | 02968294    | 4            | D          | 8,0  | 8,0  | 8,0   | 110,0 | —    | —    | 4,0  | —    | 2     | Cylindrical | ■              |
| JH112100D4B.0Z2-HXT | 02968295    | 4            | D          | 10,0 | 10,0 | 10,0  | 125,0 | —    | —    | 5,0  | —    | 2     | Cylindrical | ■              |
| JH112120D4B.0Z2-HXT | 02968296    | 4            | D          | 12,0 | 12,0 | 12,0  | 125,0 | —    | —    | 6,0  | —    | 2     | Cylindrical | ■              |

■ Stocked standard.

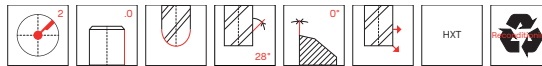
## JH112

High speed – High precision – Hardened steel – Ball nose – 2 Flutes – Cylindrical



J

- Tolerances:
- Run-out = <0,005 mm
- DMM = h5
- DC = <Ø0,6 = 0/-0,008 mm
- DC = ≥Ø0,6 = 0/-0,01 mm
- RE = <Ø0,5 = ±0,004 mm
- RE = ≥Ø1,5 = ±0,005 mm
- Regrind possible if DC is ≥Ø6



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN  | RE  | CA° | NA°  | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|------|-----|-----|-----|------|-------|-------------|----------------|
|                     |             |              |            | mm   | mm   | mm    | mm    | mm   | mm  | mm  |     |      |       |             |                |
| JH112020J5B.0Z2-HXT | 02970134    | 5            | J          | 2,0  | 6,0  | 2,0   | 80,0  | 35,0 | 1,9 | 1,0 | 3,3 | 3,55 | 2     | Cylindrical | ■              |
| JH112030J5B.0Z2-HXT | 02970135    | 5            | J          | 3,0  | 6,0  | 3,0   | 80,0  | 40,0 | 2,8 | 1,5 | 2,2 | 2,5  | 2     | Cylindrical | ■              |
| JH112040J5B.0Z2-HXT | 02970136    | 5            | J          | 4,0  | 6,0  | 4,0   | 80,0  | 52,0 | 3,7 | 2,0 | 1,2 | 1,4  | 2     | Cylindrical | ■              |
| JH112050J5B.0Z2-HXT | 02970137    | 5            | J          | 5,0  | 8,0  | 5,0   | 100,0 | 56,0 | 4,6 | 2,5 | 1,6 | 1,95 | 2     | Cylindrical | ■              |
| JH112060J5B.0Z2-HXT | 02970138    | 5            | J          | 6,0  | 8,0  | 6,0   | 100,0 | 56,0 | 5,6 | 3,0 | 1,1 | 1,4  | 2     | Cylindrical | ■              |
| JH112080J5B.0Z2-HXT | 02970139    | 5            | J          | 8,0  | 10,0 | 8,0   | 125,0 | 62,0 | 7,4 | 4,0 | 1,0 | 1,43 | 2     | Cylindrical | ■              |
| JH112100J5B.0Z2-HXT | 02970140    | 5            | J          | 10,0 | 12,0 | 10,0  | 125,0 | 61,0 | 9,4 | 5,0 | 1,0 | 1,5  | 2     | Cylindrical | ■              |
| JH112060J6B.0Z2-HXT | 02970141    | 6            | J          | 6,0  | 10,0 | 6,0   | 125,0 | 62,0 | 5,6 | 3,0 | 2,0 | 2,3  | 2     | Cylindrical | ■              |
| JH112080J6B.0Z2-HXT | 02970142    | 6            | J          | 8,0  | 12,0 | 8,0   | 150,0 | 67,0 | 7,4 | 4,0 | 1,8 | 2,3  | 2     | Cylindrical | ■              |
| JH112100J6B.0Z2-HXT | 02970143    | 6            | J          | 10,0 | 12,0 | 10,0  | 150,0 | 79,0 | 9,4 | 5,0 | 0,8 | 1,1  | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JH112 Copy milling finishing

| SMG |   | a <sub>p</sub> /DC | f <sub>z</sub> |        |        |        |        |        |        |        |        |        | v <sub>c</sub>     |
|-----|---|--------------------|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|
|     |   |                    | 2              | 2.5    | 3      | 3.5    | 4      | 5      | 6      | 8      | 10     | 12     |                    |
| K1  | E | 0.30               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 520 (500 — 730)    |
|     |   | 0,30               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 1700 (1700 — 2300) |
| K2  | E | 0.30               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 445 (430 — 630)    |
|     |   | 0,30               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 1450 (1500 — 2000) |
| K3  | E | 0.30               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 380 (360 — 530)    |
|     |   | 0,30               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 1250 (1200 — 1700) |
| K4  | E | 0.30               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 360 (350 — 510)    |
|     |   | 0,30               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 1175 (1200 — 1600) |
| K5  | E | 0.30               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 415 (370 — 610)    |
|     |   | 0,30               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 1350 (1300 — 2000) |
| K6  | E | 0.30               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 610 (550 — 900)    |
|     |   | 0,30               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 2000 (1900 — 2900) |
| K7  | E | 0.30               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 680 (560 — 790)    |
|     |   | 0,30               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 2225 (1900 — 2500) |
| H3  | M | 0.16               | 0.028          | 0.036  | 0.042  | 0.048  | 0.055  | 0.070  | 0.085  | 0.11   | 0.14   | 0.17   | 155 (150 — 230)    |
|     |   | 0,16               | 0,0011         | 0,0014 | 0,0017 | 0,0019 | 0,0022 | 0,0028 | 0,0034 | 0,0044 | 0,0055 | 0,0065 | 510 (500 — 750)    |
| H5  | M | 0.30               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 285 (240 — 330)    |
|     |   | 0,30               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 940 (790 — 1000)   |
| H7  | M | 0.16               | 0.028          | 0.036  | 0.042  | 0.048  | 0.055  | 0.070  | 0.085  | 0.11   | 0.14   | 0.17   | 155 (150 — 230)    |
|     |   | 0,16               | 0,0011         | 0,0014 | 0,0017 | 0,0019 | 0,0022 | 0,0028 | 0,0034 | 0,0044 | 0,0055 | 0,0065 | 510 (500 — 750)    |
| H8  | M | 0.30               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 285 (240 — 330)    |
|     |   | 0,30               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 940 (790 — 1000)   |
| H11 | M | 0.30               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 360 (300 — 420)    |
|     |   | 0,30               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 1175 (990 — 1300)  |
| H12 | M | 0.30               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 330 (280 — 380)    |
|     |   | 0,30               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 1075 (920 — 1200)  |
| H21 | M | 0.30               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 285 (240 — 330)    |
|     |   | 0,30               | 0,0012         | 0,0015 | 0,0017 | 0,0020 | 0,0024 | 0,0030 | 0,0036 | 0,0048 | 0,0060 | 0,0070 | 940 (790 — 1000)   |
| H31 | M | 0.30               | 0.026          | 0.032  | 0.040  | 0.046  | 0.050  | 0.065  | 0.080  | 0.10   | 0.13   | 0.16   | 300 (290 — 430)    |
|     |   | 0,30               | 0,0010         | 0,0013 | 0,0016 | 0,0018 | 0,0020 | 0,0026 | 0,0032 | 0,0040 | 0,0050 | 0,0065 | 980 (960 — 1400)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – JH112 Copy milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |        |        |        |        |        |        |        |        |        | v <sub>c</sub>     |                                 |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|---------------------------------|
|     |                                                                                   |                    |                    | 2              | 2.5    | 3      | 3.5    | 4      | 5      | 6      | 8      | 10     | 12     |                    |                                 |
| K1  | E                                                                                 | 0.250              | 0.15               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 315 (310 — 450)    | Universal                       |
|     |                                                                                   | 0.250              | 0.15               | 0.0012         | 0.0015 | 0.0017 | 0.0020 | 0.0024 | 0.0030 | 0.0036 | 0.0048 | 0.0060 | 0.0070 | 1025 (1100 — 1400) |                                 |
| K2  | E                                                                                 | 0.250              | 0.15               | 0.028          | 0.036  | 0.044  | 0.050  | 0.060  | 0.070  | 0.085  | 0.12   | 0.14   | 0.17   | 280 (270 — 390)    | Steel and cast iron             |
|     |                                                                                   | 0.250              | 0.15               | 0.0011         | 0.0014 | 0.0017 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0048 | 0.0055 | 0.0065 | 920 (890 — 1200)   |                                 |
| K3  | E                                                                                 | 0.250              | 0.15               | 0.028          | 0.036  | 0.044  | 0.050  | 0.060  | 0.070  | 0.085  | 0.12   | 0.14   | 0.17   | 235 (230 — 330)    | Steel and cast iron             |
|     |                                                                                   | 0.250              | 0.15               | 0.0011         | 0.0014 | 0.0017 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0048 | 0.0055 | 0.0065 | 770 (760 — 1000)   |                                 |
| K4  | E                                                                                 | 0.250              | 0.15               | 0.028          | 0.036  | 0.044  | 0.050  | 0.060  | 0.070  | 0.085  | 0.12   | 0.14   | 0.17   | 225 (220 — 320)    | Steel and cast iron             |
|     |                                                                                   | 0.250              | 0.15               | 0.0011         | 0.0014 | 0.0017 | 0.0020 | 0.0024 | 0.0028 | 0.0034 | 0.0048 | 0.0055 | 0.0065 | 740 (730 — 1000)   |                                 |
| K5  | E                                                                                 | 0.160              | 0.15               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 280 (250 — 410)    | Steel and cast iron             |
|     |                                                                                   | 0.160              | 0.15               | 0.0012         | 0.0015 | 0.0017 | 0.0020 | 0.0024 | 0.0030 | 0.0036 | 0.0048 | 0.0060 | 0.0070 | 920 (830 — 1300)   |                                 |
| K6  | E                                                                                 | 0.160              | 0.15               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 415 (370 — 610)    | Steel and cast iron             |
|     |                                                                                   | 0.160              | 0.15               | 0.0012         | 0.0015 | 0.0017 | 0.0020 | 0.0024 | 0.0030 | 0.0036 | 0.0048 | 0.0060 | 0.0070 | 1350 (1300 — 2000) |                                 |
| K7  | E                                                                                 | 0.250              | 0.10               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 420 (350 — 490)    | Stainless steel and S-materials |
|     |                                                                                   | 0.250              | 0.10               | 0.0012         | 0.0015 | 0.0017 | 0.0020 | 0.0024 | 0.0030 | 0.0036 | 0.0048 | 0.0060 | 0.0070 | 1375 (1200 — 1600) |                                 |
| H3  | M                                                                                 | 0.120              | 0.040              | 0.028          | 0.036  | 0.042  | 0.048  | 0.055  | 0.070  | 0.085  | 0.11   | 0.14   | 0.17   | 110 (100 — 160)    | Stainless steel and S-materials |
|     |                                                                                   | 0.120              | 0.040              | 0.0011         | 0.0014 | 0.0017 | 0.0019 | 0.0022 | 0.0028 | 0.0034 | 0.0044 | 0.0055 | 0.0065 | 360 (330 — 520)    |                                 |
| H5  | M                                                                                 | 0.250              | 0.10               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 175 (150 — 200)    | Stainless steel and S-materials |
|     |                                                                                   | 0.250              | 0.10               | 0.0012         | 0.0015 | 0.0017 | 0.0020 | 0.0024 | 0.0030 | 0.0036 | 0.0048 | 0.0060 | 0.0070 | 570 (500 — 650)    |                                 |
| H7  | M                                                                                 | 0.120              | 0.040              | 0.028          | 0.036  | 0.042  | 0.048  | 0.055  | 0.070  | 0.085  | 0.11   | 0.14   | 0.17   | 110 (100 — 160)    | Stainless steel and S-materials |
|     |                                                                                   | 0.120              | 0.040              | 0.0011         | 0.0014 | 0.0017 | 0.0019 | 0.0022 | 0.0028 | 0.0034 | 0.0044 | 0.0055 | 0.0065 | 360 (330 — 520)    |                                 |
| H8  | M                                                                                 | 0.250              | 0.10               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 175 (150 — 200)    | Non ferrous                     |
|     |                                                                                   | 0.250              | 0.10               | 0.0012         | 0.0015 | 0.0017 | 0.0020 | 0.0024 | 0.0030 | 0.0036 | 0.0048 | 0.0060 | 0.0070 | 570 (500 — 650)    |                                 |
| H11 | M                                                                                 | 0.250              | 0.10               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 225 (190 — 260)    | Non ferrous                     |
|     |                                                                                   | 0.250              | 0.10               | 0.0012         | 0.0015 | 0.0017 | 0.0020 | 0.0024 | 0.0030 | 0.0036 | 0.0048 | 0.0060 | 0.0070 | 740 (630 — 850)    |                                 |
| H12 | M                                                                                 | 0.250              | 0.10               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 205 (170 — 240)    | Non ferrous                     |
|     |                                                                                   | 0.250              | 0.10               | 0.0012         | 0.0015 | 0.0017 | 0.0020 | 0.0024 | 0.0030 | 0.0036 | 0.0048 | 0.0060 | 0.0070 | 670 (560 — 780)    |                                 |
| H21 | M                                                                                 | 0.250              | 0.10               | 0.030          | 0.038  | 0.044  | 0.050  | 0.060  | 0.075  | 0.090  | 0.12   | 0.15   | 0.18   | 175 (150 — 200)    | Non ferrous                     |
|     |                                                                                   | 0.250              | 0.10               | 0.0012         | 0.0015 | 0.0017 | 0.0020 | 0.0024 | 0.0030 | 0.0036 | 0.0048 | 0.0060 | 0.0070 | 570 (500 — 650)    |                                 |
| H31 | M                                                                                 | 0.200              | 0.10               | 0.026          | 0.032  | 0.040  | 0.046  | 0.050  | 0.065  | 0.080  | 0.10   | 0.13   | 0.16   | 200 (200 — 280)    | Hard                            |
|     |                                                                                   | 0.200              | 0.10               | 0.0010         | 0.0013 | 0.0016 | 0.0018 | 0.0020 | 0.0026 | 0.0032 | 0.0040 | 0.0050 | 0.0065 | 660 (660 — 910)    |                                 |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

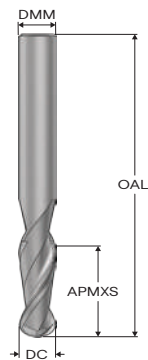
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

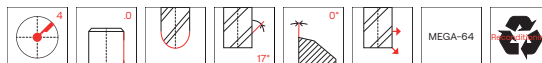
## JH150

High speed – Hardened steel – Ball nose – 4 Flutes – Cylindrical



D

- Tolerances:  
 —DMM= h5  
 —DC= -0,02/-0,04 mm  
 —RE= ±0,01 mm  
 —Regrind possible



| Designation    | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-------------|----------------|
| 150060-MEGA-64 | 00019198    | 2            | D          | 6,0  | 6,0  | 6,0   | 80,0  | 3,0 | 4     | Cylindrical | ■              |
| 150080-MEGA-64 | 00019208    | 2            | D          | 8,0  | 8,0  | 8,0   | 85,0  | 4,0 | 4     | Cylindrical | ■              |
| 150100-MEGA-64 | 00019219    | 2            | D          | 10,0 | 10,0 | 10,0  | 100,0 | 5,0 | 4     | Cylindrical | ■              |
| 150120-MEGA-64 | 00019254    | 2            | D          | 12,0 | 12,0 | 12,0  | 100,0 | 6,0 | 4     | Cylindrical | ■              |

■ Stocked standard.

#### Cutting data – JH150 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$       | $f_z$           |                |                |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|------------------|----------------|-----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                  |                | 6               | 8              | 10             | 12             |                                       |
| K1  | A                                                                                 | 0.300<br>0,300   | 0.15<br>0,15   | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 290 (310 — 370)<br>950 (1100 — 1200)  |
| K2  | A                                                                                 | 0.300<br>0,300   | 0.15<br>0,15   | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 250 (270 — 320)<br>820 (890 — 1000)   |
| K3  | A                                                                                 | 0.300<br>0,300   | 0.15<br>0,15   | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 210 (230 — 270)<br>690 (760 — 880)    |
| K5  | A                                                                                 | 0.200<br>0,200   | 0.15<br>0,15   | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 255 (270 — 330)<br>840 (890 — 1000)   |
| K6  | A                                                                                 | 0.200<br>0,200   | 0.15<br>0,15   | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 375 (390 — 500)<br>1225 (1300 — 1600) |
| K7  | A                                                                                 | 0.200<br>0,200   | 0.15<br>0,15   | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 325 (340 — 430)<br>1075 (1200 — 1400) |
| H3  | M                                                                                 | 0.0500<br>0,0500 | 0.020<br>0,020 | 0.085<br>0,0034 | 0.11<br>0,0044 | 0.14<br>0,0055 | 0.17<br>0,0065 | 85 (88 — 120)<br>280 (290 — 390)      |
| H5  | M                                                                                 | 0.200<br>0,200   | 0.060<br>0,060 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 180 (160 — 200)<br>590 (530 — 650)    |
| H7  | M                                                                                 | 0.0500<br>0,0500 | 0.020<br>0,020 | 0.085<br>0,0034 | 0.11<br>0,0044 | 0.14<br>0,0055 | 0.17<br>0,0065 | 85 (88 — 120)<br>280 (290 — 390)      |
| H8  | M                                                                                 | 0.200<br>0,200   | 0.060<br>0,060 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 180 (160 — 200)<br>590 (530 — 650)    |
| H11 | M                                                                                 | 0.200<br>0,200   | 0.060<br>0,060 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 230 (210 — 250)<br>750 (690 — 820)    |
| H12 | M                                                                                 | 0.200<br>0,200   | 0.060<br>0,060 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 210 (190 — 230)<br>690 (630 — 750)    |
| H21 | M                                                                                 | 0.200<br>0,200   | 0.060<br>0,060 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 180 (160 — 200)<br>590 (530 — 650)    |
| H31 | M                                                                                 | 0.150<br>0,150   | 0.060<br>0,060 | 0.090<br>0,0036 | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.18<br>0,0070 | 125 (130 — 180)<br>410 (430 — 590)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
iron

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

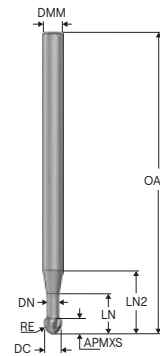
Graphite

X-Heads

Minimaster

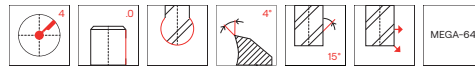
JH160

High speed – Hardened steel – Ball nose – 4 Flutes – Cylindrical



E

—Tolerances:  
—DMM= h5  
—DC= 0,02/-0,06 mm  
—SA=250°



| Designation    | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN  | RE  | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|------|------|-------|-------|------|-----|-----|-------|-------------|----------------|
| 160030-MEGA-64 | 00040365    | 2            | E          | mm   | mm   | mm    | mm    | mm   | mm  | mm  | mm    |             |                |
| 160040-MEGA-64 | 00040366    | 2            | E          | 3,0  | 3,0  | 2,3   | 60,0  | 4,5  | 1,8 | 1,5 | 4     | Cylindrical | ■              |
| 160050-MEGA-64 | 00040367    | 2            | E          | 4,0  | 4,0  | 3,1   | 60,0  | 5,6  | 2,4 | 2,0 | 4     | Cylindrical | ■              |
| 160060-MEGA-64 | 00040368    | 2            | E          | 5,0  | 5,0  | 3,9   | 70,0  | 6,4  | 3,0 | 2,5 | 4     | Cylindrical | ■              |
| 160080-MEGA-64 | 00040369    | 2            | E          | 6,0  | 6,0  | 4,7   | 80,0  | 9,7  | 3,6 | 3,0 | 4     | Cylindrical | ■              |
| 160100-MEGA-64 | 00040370    | 2            | E          | 8,0  | 8,0  | 6,2   | 85,0  | 11,2 | 4,8 | 4,0 | 4     | Cylindrical | ■              |
| 160120-MEGA-64 | 00040371    | 2            | E          | 10,0 | 10,0 | 7,8   | 100,0 | 15,6 | 6,0 | 5,0 | 4     | Cylindrical | ■              |
| 160120-MEGA-64 | 00040371    | 2            | E          | 12,0 | 12,0 | 9,4   | 125,0 | 17,2 | 7,2 | 6,0 | 4     | Cylindrical | ■              |

■ Stocked standard.



#### Cutting data – JH160 Copy milling finishing

| SMG |  | $a_e/DC$         | $a_p/DC$         | $f_z$           |                 |                 |                 |                |                |                | $v_c$                                 |                                 |
|-----|-----------------------------------------------------------------------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                  |                  | 3               | 4               | 5               | 6               | 8              | 10             | 12             |                                       |                                 |
| P1  | M/E/A                                                                             | 0.0200<br>0,0200 | 0.024<br>0,024   | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 550 (450 — 700)<br>1800 (1500 — 2200) | Universal                       |
| P2  | M/E/A                                                                             | 0.0200<br>0,0200 | 0.024<br>0,024   | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 530 (440 — 680)<br>1750 (1500 — 2200) |                                 |
| P3  | M/E/A                                                                             | 0.0200<br>0,0200 | 0.024<br>0,024   | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 460 (380 — 590)<br>1500 (1300 — 1900) | Steel and cast iron             |
| P4  | M/E/A                                                                             | 0.0200<br>0,0200 | 0.024<br>0,024   | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 405 (340 — 520)<br>1325 (1200 — 1700) |                                 |
| P5  | M/E/A                                                                             | 0.0200<br>0,0200 | 0.024<br>0,024   | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 385 (320 — 490)<br>1275 (1100 — 1600) | Steel and stainless steel       |
| P6  | M/E/A                                                                             | 0.0200<br>0,0200 | 0.024<br>0,024   | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 430 (360 — 560)<br>1400 (1200 — 1800) |                                 |
| P7  | M/E/A                                                                             | 0.0200<br>0,0200 | 0.024<br>0,024   | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 410 (340 — 520)<br>1350 (1200 — 1700) | Stainless steel and S-materials |
| P8  | M/E/A                                                                             | 0.0200<br>0,0200 | 0.024<br>0,024   | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 395 (330 — 510)<br>1275 (1100 — 1600) |                                 |
| P11 | M/E/A                                                                             | 0.0200<br>0,0200 | 0.024<br>0,024   | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 235 (200 — 300)<br>770 (660 — 980)    | Non ferrous                     |
| P12 | M/E/A                                                                             | 0.0200<br>0,0200 | 0.024<br>0,024   | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 85 (91 — 110)<br>280 (300 — 360)      |                                 |
| H3  | M/E/A                                                                             | 0.0100<br>0,0100 | 0.0075<br>0,0075 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 | 340 (320 — 360)<br>1125 (1100 — 1100) | Hard                            |
| H5  | M/E/A                                                                             | 0.0100<br>0,0100 | 0.016<br>0,016   | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 | 85 (91 — 110)<br>280 (300 — 360)      |                                 |
| H7  | M/E/A                                                                             | 0.0100<br>0,0100 | 0.0075<br>0,0075 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 | 340 (320 — 360)<br>1125 (1100 — 1100) | Plastic and cfpr                |
| H8  | M/E/A                                                                             | 0.0100<br>0,0100 | 0.016<br>0,016   | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 | 430 (400 — 460)<br>1400 (1400 — 1500) |                                 |
| H11 | M/E/A                                                                             | 0.0100<br>0,0100 | 0.016<br>0,016   | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 | 355 (340 — 380)<br>1175 (1200 — 1200) | X-Heads                         |
| H12 | M/E/A                                                                             | 0.0200<br>0,0200 | 0.024<br>0,024   | 0.050<br>0,0020 | 0.070<br>0,0028 | 0.085<br>0,0034 | 0.10<br>0,0040  | 0.14<br>0,0055 | 0.17<br>0,0065 | 0.20<br>0,0080 | 340 (320 — 360)<br>1125 (1100 — 1100) |                                 |
| H21 | M/E/A                                                                             | 0.0100<br>0,0100 | 0.016<br>0,016   | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 | 165 (180 — 210)<br>540 (600 — 680)    | Minimaster                      |
| H31 | M/E/A                                                                             | 0.0100<br>0,0100 | 0.016<br>0,016   | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 |                                       |                                 |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

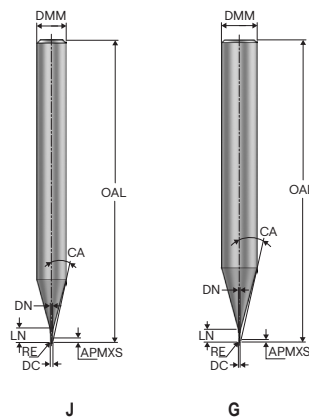
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

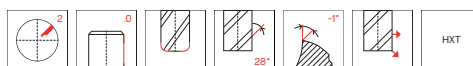
## JME142

Miniature – Hardened steel – Square – 2 Flutes – Cylindrical – Corner radius



—Tolerances:

- Run-out= <0,005 mm
- DMM = h5
- DC= < Ø0,6= 0/-0,008 mm
- DC= ≥ Ø0,6= 0/-0,01 mm
- RE = ±0,005 mm

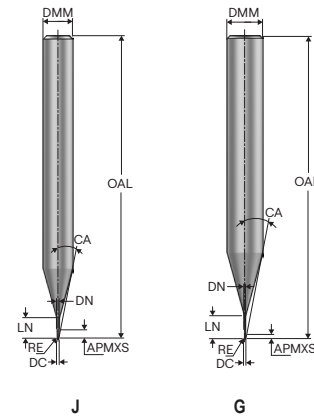


| Designation             | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°   | NA° | PSIR° | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|-------|-----|-------|-------|-------------|----------------|
| JME142002G1R005Z2.0-HXT | 03205080    | 1            | G          | 0,2 | 4,0 | 0,15  | 40,0 | 0,4  | 0,18 | 0,05 | 15,12 | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142003G1R005Z2.0-HXT | 03205082    | 1            | G          | 0,3 | 4,0 | 0,225 | 40,0 | 0,6  | 0,28 | 0,05 | 14,77 | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142004G1R005Z2.0-HXT | 03205084    | 1            | G          | 0,4 | 4,0 | 0,3   | 40,0 | 0,8  | 0,37 | 0,05 | 14,39 | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142005G1R005Z2.0-HXT | 03205086    | 1            | G          | 0,5 | 4,0 | 0,375 | 40,0 | 0,75 | 0,46 | 0,05 | 14,01 | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142006G1R005Z2.0-HXT | 03205099    | 1            | G          | 0,6 | 4,0 | 0,45  | 40,0 | 0,9  | 0,56 | 0,05 | 13,67 | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142008G1R005Z2.0-HXT | 03205121    | 1            | G          | 0,8 | 6,0 | 0,6   | 50,0 | 1,2  | 0,76 | 0,05 | 13,98 | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142010G1R005Z2.0-HXT | 03205139    | 1            | G          | 1,0 | 6,0 | 0,75  | 50,0 | 1,5  | 0,95 | 0,05 | 13,49 | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142012G1R005Z2.0-HXT | 03205151    | 1            | G          | 1,2 | 6,0 | 0,9   | 50,0 | 1,8  | 1,15 | 0,05 | 13,02 | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142015G1R005Z2.0-HXT | 03205161    | 1            | G          | 1,5 | 6,0 | 1,125 | 50,0 | 2,25 | 1,45 | 0,05 | 12,3  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142002J2R005Z2.0-HXT | 03205081    | 2            | J          | 0,2 | 4,0 | 0,15  | 40,0 | 0,6  | 0,18 | 0,05 | 14,23 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142003J2R005Z2.0-HXT | 03205083    | 2            | J          | 0,3 | 4,0 | 0,225 | 40,0 | 0,9  | 0,28 | 0,05 | 13,67 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142004J2R005Z2.0-HXT | 03205085    | 2            | J          | 0,4 | 4,0 | 0,3   | 40,0 | 1,2  | 0,37 | 0,05 | 13,1  | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142005J2R005Z2.0-HXT | 03205087    | 2            | J          | 0,5 | 4,0 | 0,375 | 40,0 | 1,5  | 0,46 | 0,05 | 12,54 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142005J2R010Z2.0-HXT | 03205093    | 2            | J          | 0,5 | 4,0 | 0,375 | 40,0 | 1,5  | 0,46 | 0,1  | 12,61 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142005G2R005Z2.0-HXT | 03205088    | 2            | G          | 0,5 | 6,0 | 0,375 | 50,0 | 1,5  | 0,46 | 0,05 | 13,5  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142005G2R010Z2.0-HXT | 03205094    | 2            | G          | 0,5 | 6,0 | 0,375 | 50,0 | 1,5  | 0,46 | 0,1  | 13,55 | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142006J2R005Z2.0-HXT | 03205100    | 2            | J          | 0,6 | 4,0 | 0,45  | 40,0 | 2,0  | 0,56 | 0,05 | 11,76 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142006J2R010Z2.0-HXT | 03205107    | 2            | J          | 0,6 | 4,0 | 0,45  | 40,0 | 2,0  | 0,56 | 0,1  | 11,83 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142006G2R005Z2.0-HXT | 03205101    | 2            | G          | 0,6 | 6,0 | 0,45  | 50,0 | 2,0  | 0,56 | 0,05 | 9,48  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142006G2R010Z2.0-HXT | 03205108    | 2            | G          | 0,6 | 6,0 | 0,45  | 50,0 | 2,0  | 0,56 | 0,1  | 9,51  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142008J2R005Z2.0-HXT | 03205122    | 2            | J          | 0,8 | 4,0 | 0,6   | 40,0 | 2,5  | 0,76 | 0,05 | 10,92 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142008J2R010Z2.0-HXT | 03205129    | 2            | J          | 0,8 | 4,0 | 0,6   | 40,0 | 2,5  | 0,76 | 0,1  | 10,98 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142008J2R020Z2.0-HXT | 03205135    | 2            | J          | 0,8 | 4,0 | 0,6   | 40,0 | 2,5  | 0,76 | 0,2  | 11,1  | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142008G2R005Z2.0-HXT | 03205123    | 2            | G          | 0,8 | 6,0 | 0,6   | 50,0 | 2,5  | 0,76 | 0,05 | 9,15  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142008G2R010Z2.0-HXT | 03205130    | 2            | G          | 0,8 | 6,0 | 0,6   | 50,0 | 2,5  | 0,76 | 0,1  | 9,17  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142008G2R020Z2.0-HXT | 03205136    | 2            | G          | 0,8 | 6,0 | 0,6   | 50,0 | 2,5  | 0,76 | 0,2  | 9,22  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142010G2R005Z2.0-HXT | 03205140    | 2            | G          | 1,0 | 6,0 | 0,75  | 50,0 | 4,0  | 0,95 | 0,05 | 8,29  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142010G2R010Z2.0-HXT | 03205145    | 2            | G          | 1,0 | 6,0 | 0,75  | 50,0 | 4,0  | 0,95 | 0,1  | 8,31  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142010G2R020Z2.0-HXT | 03205148    | 2            | G          | 1,0 | 6,0 | 0,75  | 50,0 | 4,0  | 0,95 | 0,2  | 8,36  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142012G2R005Z2.0-HXT | 03205152    | 2            | G          | 1,2 | 6,0 | 0,9   | 50,0 | 4,5  | 1,15 | 0,05 | 7,97  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142012G2R010Z2.0-HXT | 03205155    | 2            | G          | 1,2 | 6,0 | 0,9   | 50,0 | 4,5  | 1,15 | 0,1  | 7,99  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142012G2R020Z2.0-HXT | 03205158    | 2            | G          | 1,2 | 6,0 | 0,9   | 50,0 | 4,5  | 1,15 | 0,2  | 8,04  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142015G2R005Z2.0-HXT | 03205162    | 2            | G          | 1,5 | 6,0 | 1,125 | 50,0 | 5,0  | 1,45 | 0,05 | 7,6   | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142015G2R010Z2.0-HXT | 03205167    | 2            | G          | 1,5 | 6,0 | 1,125 | 50,0 | 5,0  | 1,45 | 0,1  | 9,7   | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142015G2R020Z2.0-HXT | 03205171    | 2            | G          | 1,5 | 6,0 | 1,125 | 50,0 | 5,0  | 1,45 | 0,2  | 9,76  | —   | -1,0  | 2     | Cylindrical | ■              |

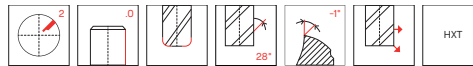
■ Stocked standard.

## JME142

Miniature – Hardened steel – Square – 2 Flutes – Cylindrical – Corner radius



- Tolerances:
- Run-out = <0,005 mm
- DMM = h5
- DC = < Ø0,6 = 0/-0,008 mm
- DC = ≥ Ø0,6 = 0/-0,01 mm
- RE = ±0,005 mm



| Designation             | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°   | NA° | PSIR° | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|-------|-----|-------|-------|-------------|----------------|
| JME142020G2R005Z2.0-HXT | 03205180    | 2            | G          | 2,0 | 6,0 | 1,5   | 50,0 | 6,0  | 1,94 | 0,05 | 8,52  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142020G2R010Z2.0-HXT | 03205185    | 2            | G          | 2,0 | 6,0 | 1,5   | 50,0 | 6,0  | 1,94 | 0,1  | 8,55  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142020G2R020Z2.0-HXT | 03205188    | 2            | G          | 2,0 | 6,0 | 1,5   | 50,0 | 6,0  | 1,94 | 0,2  | 8,6   | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142020G2R030Z2.0-HXT | 03205191    | 2            | G          | 2,0 | 6,0 | 1,5   | 50,0 | 6,0  | 1,94 | 0,3  | 8,66  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142030G2R005Z2.0-HXT | 03205201    | 2            | G          | 3,0 | 6,0 | 2,25  | 50,0 | 9,0  | 2,85 | 0,05 | 5,81  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142005J3R005Z2.0-HXT | 03205089    | 3            | J          | 0,5 | 4,0 | 0,375 | 40,0 | 2,5  | 0,46 | 0,05 | 11,24 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142005J3R010Z2.0-HXT | 03205095    | 3            | J          | 0,5 | 4,0 | 0,375 | 40,0 | 2,5  | 0,46 | 0,1  | 11,29 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142005G3R005Z2.0-HXT | 03205090    | 3            | G          | 0,5 | 6,0 | 0,375 | 50,0 | 3,5  | 0,46 | 0,05 | 11,55 | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142005G3R010Z2.0-HXT | 03205096    | 3            | G          | 0,5 | 6,0 | 0,375 | 50,0 | 3,5  | 0,46 | 0,1  | 11,59 | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142006J3R005Z2.0-HXT | 03205103    | 3            | J          | 0,6 | 4,0 | 0,45  | 40,0 | 3,0  | 0,56 | 0,05 | 10,58 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142006J3R010Z2.0-HXT | 03205109    | 3            | J          | 0,6 | 4,0 | 0,45  | 40,0 | 3,0  | 0,56 | 0,1  | 10,63 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142006G3R005Z2.0-HXT | 03205104    | 3            | G          | 0,6 | 6,0 | 0,45  | 50,0 | 4,0  | 0,56 | 0,05 | 8,46  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142006G3R010Z2.0-HXT | 03205110    | 3            | G          | 0,6 | 6,0 | 0,45  | 50,0 | 4,0  | 0,56 | 0,1  | 8,48  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142008J3R005Z2.0-HXT | 03205124    | 3            | J          | 0,8 | 4,0 | 0,6   | 40,0 | 4,0  | 0,76 | 0,05 | 9,36  | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142008G3R005Z2.0-HXT | 03205126    | 3            | G          | 0,8 | 6,0 | 0,6   | 50,0 | 5,5  | 0,76 | 0,05 | 9,89  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142010G3R005Z2.0-HXT | 03205141    | 3            | G          | 1,0 | 6,0 | 0,75  | 50,0 | 7,0  | 0,95 | 0,05 | 8,84  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142010G3R010Z2.0-HXT | 03205146    | 3            | G          | 1,0 | 6,0 | 0,75  | 50,0 | 7,0  | 0,95 | 0,1  | 8,86  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142010G3R020Z2.0-HXT | 03205149    | 3            | G          | 1,0 | 6,0 | 0,75  | 50,0 | 7,0  | 0,95 | 0,2  | 8,91  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142015G3R005Z2.0-HXT | 03205163    | 3            | G          | 1,5 | 6,0 | 1,125 | 50,0 | 10,0 | 1,45 | 0,05 | 7,05  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142015G3R010Z2.0-HXT | 03205169    | 3            | G          | 1,5 | 6,0 | 1,125 | 50,0 | 10,0 | 1,45 | 0,1  | 7,06  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142015G3R020Z2.0-HXT | 03205172    | 3            | G          | 1,5 | 6,0 | 1,125 | 50,0 | 10,0 | 1,45 | 0,2  | 7,1   | —   | -1,0  | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

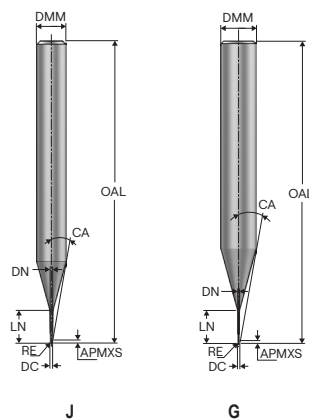
Graphite

X-Heads

Minimaster

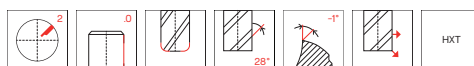
## JME142

Miniature – Hardened steel – Square – 2 Flutes – Cylindrical – Corner radius



—Tolerances:

- Run-out= <0,005 mm
- DMM = h5
- DC= < Ø0,6= 0/-0,008 mm
- DC= ≥ Ø0,6= 0/-0,01 mm
- RE = ±0,005 mm

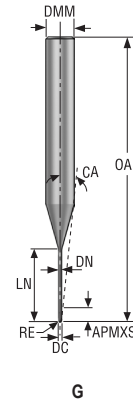


| Designation             | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°   | NA° | PSIR° | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|-------|-----|-------|-------|-------------|----------------|
|                         |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm   |       |     |       |       |             |                |
| JME142020G3R005Z2.0-HXT | 03205181    | 3            | G          | 2,0 | 6,0 | 1,5   | 50,0 | 12,0 | 1,94 | 0,05 | 5,9   | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142020G3R010Z2.0-HXT | 03205186    | 3            | G          | 2,0 | 6,0 | 1,5   | 50,0 | 12,0 | 1,94 | 0,1  | 5,92  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142020G3R020Z2.0-HXT | 03205189    | 3            | G          | 2,0 | 6,0 | 1,5   | 50,0 | 12,0 | 1,94 | 0,2  | 5,95  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142030G3R010Z2.0-HXT | 03205206    | 3            | G          | 3,0 | 6,0 | 2,25  | 60,0 | 15,0 | 2,85 | 0,1  | 4,15  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142005J4R010Z2.0-HXT | 03205097    | 4            | J          | 0,5 | 4,0 | 0,375 | 40,0 | 4,0  | 0,46 | 0,1  | 9,76  | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142005G4R005Z2.0-HXT | 03205092    | 4            | G          | 0,5 | 6,0 | 0,375 | 50,0 | 5,0  | 0,46 | 0,05 | 10,42 | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142005G4R010Z2.0-HXT | 03205098    | 4            | G          | 0,5 | 6,0 | 0,375 | 50,0 | 5,0  | 0,46 | 0,1  | 10,45 | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142006J4R005Z2.0-HXT | 03205105    | 4            | J          | 0,6 | 4,0 | 0,45  | 40,0 | 5,0  | 0,56 | 0,05 | 8,79  | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JME142008G4R005Z2.0-HXT | 03205128    | 4            | G          | 0,8 | 6,0 | 0,6   | 50,0 | 8,0  | 0,76 | 0,05 | 8,49  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142010G4R010Z2.0-HXT | 03205147    | 4            | G          | 1,0 | 6,0 | 0,75  | 50,0 | 10,0 | 0,95 | 0,1  | 7,48  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142010G4R020Z2.0-HXT | 03205150    | 4            | G          | 1,0 | 6,0 | 0,75  | 50,0 | 10,0 | 0,95 | 0,2  | 7,52  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142012G4R010Z2.0-HXT | 03205157    | 4            | G          | 1,2 | 6,0 | 0,9   | 50,0 | 12,0 | 1,15 | 0,1  | 6,62  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142012G4R020Z2.0-HXT | 03205160    | 4            | G          | 1,2 | 6,0 | 0,9   | 50,0 | 12,0 | 1,15 | 0,2  | 6,65  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142015G4R010Z2.0-HXT | 03205170    | 4            | G          | 1,5 | 6,0 | 1,125 | 60,0 | 15,0 | 1,45 | 0,1  | 5,55  | —   | -1,0  | 2     | Cylindrical | ■              |
| JME142015G4R020Z2.0-HXT | 03205173    | 4            | G          | 1,5 | 6,0 | 1,125 | 60,0 | 15,0 | 1,45 | 0,2  | 5,58  | —   | -1,0  | 2     | Cylindrical | ■              |

■ Stocked standard.

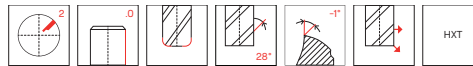
## JME142

Miniature – Hardened steel – Square – 2 Flutes – Cylindrical – Corner radius



G

- Tolerances:
- Run-out = <0,005 mm
- DMM = h5
- DC = < Ø0,6 = 0/-0,008 mm
- DC = ≥ Ø0,6 = 0/-0,01 mm
- RE = ±0,005 mm



| Designation             | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE  | CA°  | PSIR° | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|-----|------|-------|-------|-------------|----------------|
|                         |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm  |      |       |       |             |                |
| JME142020G4R010Z2.0-HXT | 03205187    | 4            | G          | 2,0 | 6,0 | 1,5   | 60,0 | 20,0 | 1,94 | 0,1 | 4,19 | -1,0  | 2     | Cylindrical | ■              |
| JME142020G4R020Z2.0-HXT | 03205190    | 4            | G          | 2,0 | 6,0 | 1,5   | 60,0 | 20,0 | 1,94 | 0,2 | 4,21 | -1,0  | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JME142 Side milling roughing

| SMG |     | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                   |                   |                  |                  |                  |                  |                 |                 |                 |                 |                 | v <sub>c</sub>                     |
|-----|-----|--------------------|--------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |     |                    |                    | 0.2               | 0.3               | 0.4               | 0.5               | 0.6              | 0.8              | 1                | 1.2              | 1.5             | 1.8             | 2               | 2.5             | 3               |                                    |
| H3  | M/A | 0.0500<br>0,0500   | 0.30<br>0,30       | 0.0036<br>0,00014 | 0.0055<br>0,00022 | 0.0070<br>0,00028 | 0.0090<br>0,00036 | 0.011<br>0,00044 | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 90 (59 — 110)<br>295 (200 — 360)   |
| H5  | M/A | 0.0500<br>0,0500   | 0.46<br>0,46       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 160 (140 — 190)<br>520 (460 — 620) |
| H7  | M/A | 0.0500<br>0,0500   | 0.30<br>0,30       | 0.0036<br>0,00014 | 0.0055<br>0,00022 | 0.0070<br>0,00028 | 0.0090<br>0,00036 | 0.011<br>0,00044 | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.026<br>0,0010 | 0.032<br>0,0013 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 90 (59 — 110)<br>295 (200 — 360)   |
| H8  | M/A | 0.0500<br>0,0500   | 0.46<br>0,46       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 160 (140 — 190)<br>520 (460 — 620) |
| H11 | M/A | 0.0500<br>0,0500   | 0.46<br>0,46       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 205 (170 — 240)<br>670 (560 — 780) |
| H12 | M/A | 0.0500<br>0,0500   | 0.46<br>0,46       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 190 (160 — 220)<br>620 (530 — 720) |
| H21 | M/A | 0.0500<br>0,0500   | 0.46<br>0,46       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 160 (140 — 190)<br>520 (460 — 620) |
| H31 | M/A | 0.0500<br>0,0500   | 0.46<br>0,46       | 0.0040<br>0,00016 | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 120 (110 — 140)<br>395 (370 — 450) |

## Cutting data – JME142 Slot milling

| SMG |     | a <sub>p</sub> /DC | f <sub>z</sub>     |                   |                   |                   |                   |                   |                  |                  |                  |                  |                  |                 |                 | v <sub>c</sub>                     |
|-----|-----|--------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|------------------------------------|
|     |     |                    | 0.2                | 0.3               | 0.4               | 0.5               | 0.6               | 0.8               | 1                | 1.2              | 1.5              | 1.8              | 2                | 2.5             | 3               |                                    |
| H3  | M/A | 0.012<br>0,012     | 0.0024<br>0,000095 | 0.0036<br>0,00014 | 0.0048<br>0,00019 | 0.0060<br>0,00024 | 0.0070<br>0,00028 | 0.0095<br>0,00038 | 0.012<br>0,00048 | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 65 (43 — 85)<br>215 (150 — 270)    |
| H5  | M/A | 0.020<br>0,020     | 0.0040<br>0,00016  | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065  | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 120 (97 — 130)<br>395 (320 — 420)  |
| H7  | M/A | 0.012<br>0,012     | 0.0024<br>0,000095 | 0.0036<br>0,00014 | 0.0048<br>0,00019 | 0.0060<br>0,00024 | 0.0070<br>0,00028 | 0.0095<br>0,00038 | 0.012<br>0,00048 | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 65 (43 — 85)<br>215 (150 — 270)    |
| H8  | M/A | 0.020<br>0,020     | 0.0040<br>0,00016  | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065  | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 120 (97 — 130)<br>395 (320 — 420)  |
| H11 | M/A | 0.020<br>0,020     | 0.0040<br>0,00016  | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065  | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 150 (130 — 170)<br>490 (430 — 550) |
| H12 | M/A | 0.020<br>0,020     | 0.0040<br>0,00016  | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065  | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 135 (120 — 160)<br>445 (400 — 520) |
| H21 | M/A | 0.012<br>0,012     | 0.0024<br>0,000095 | 0.0036<br>0,00014 | 0.0048<br>0,00019 | 0.0060<br>0,00024 | 0.0070<br>0,00028 | 0.0095<br>0,00038 | 0.012<br>0,00048 | 0.014<br>0,00055 | 0.018<br>0,00070 | 0.022<br>0,00085 | 0.024<br>0,00095 | 0.030<br>0,0012 | 0.036<br>0,0014 | 120 (98 — 140)<br>395 (330 — 450)  |
| H31 | M/A | 0.020<br>0,020     | 0.0040<br>0,00016  | 0.0060<br>0,00024 | 0.0080<br>0,00032 | 0.010<br>0,00040  | 0.012<br>0,00048  | 0.016<br>0,00065  | 0.020<br>0,00080 | 0.024<br>0,00095 | 0.030<br>0,0012  | 0.036<br>0,0014  | 0.040<br>0,0016  | 0.050<br>0,0020 | 0.060<br>0,0024 | 90 (73 — 100)<br>295 (240 — 320)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

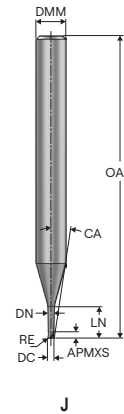
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

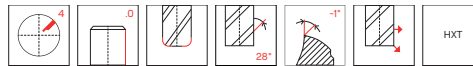
All cutting data are target values

## JME144

Miniature – Hardened steel – Square – 4 Flutes – Cylindrical – Corner radius



- Tolerances:
- Run-out = <0,005 mm
- DMM = h5
- DC = 0-0,01 mm
- RE = ±0,005 mm



| Designation             | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°  | NA° | PSIR° | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|------|-----|-------|-------|-------------|----------------|
| JME144010J2R005Z4.0-HXT | 03205214    | 2            | J          | 1,0 | 4,0 | 0,75  | 40,0 | 4,0  | 0,95 | 0,05 | 9,08 | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144010J2R010Z4.0-HXT | 03205217    | 2            | J          | 1,0 | 4,0 | 0,75  | 40,0 | 4,0  | 0,95 | 0,1  | 9,13 | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144010J2R020Z4.0-HXT | 03205220    | 2            | J          | 1,0 | 4,0 | 0,75  | 40,0 | 4,0  | 0,95 | 0,2  | 9,22 | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144015J2R005Z4.0-HXT | 03205227    | 2            | J          | 1,5 | 4,0 | 1,125 | 50,0 | 5,0  | 1,45 | 0,05 | 7,52 | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144015J2R010Z4.0-HXT | 03205229    | 2            | J          | 1,5 | 4,0 | 1,125 | 50,0 | 5,0  | 1,45 | 0,1  | 7,56 | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144015J2R020Z4.0-HXT | 03205232    | 2            | J          | 1,5 | 4,0 | 1,125 | 50,0 | 5,0  | 1,45 | 0,2  | 7,63 | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144020J2R005Z4.0-HXT | 03205234    | 2            | J          | 2,0 | 4,0 | 1,5   | 50,0 | 6,0  | 1,94 | 0,05 | 5,97 | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144020J2R010Z4.0-HXT | 03205236    | 2            | J          | 2,0 | 4,0 | 1,5   | 50,0 | 6,0  | 1,94 | 0,1  | 6,0  | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144020J2R020Z4.0-HXT | 03205239    | 2            | J          | 2,0 | 4,0 | 1,5   | 50,0 | 6,0  | 1,94 | 0,2  | 6,06 | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144020J2R030Z4.0-HXT | 03205241    | 2            | J          | 2,0 | 4,0 | 1,5   | 50,0 | 6,0  | 1,94 | 0,3  | 6,12 | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144030J2R010Z4.0-HXT | 03205243    | 2            | J          | 3,0 | 4,0 | 2,25  | 50,0 | 9,0  | 2,85 | 0,1  | 2,66 | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144030J2R020Z4.0-HXT | 03205246    | 2            | J          | 3,0 | 4,0 | 2,25  | 50,0 | 9,0  | 2,85 | 0,2  | 2,69 | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144010J3R010Z4.0-HXT | 03205218    | 3            | J          | 1,0 | 4,0 | 0,75  | 40,0 | 5,0  | 0,95 | 0,1  | 8,3  | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144015J3R010Z4.0-HXT | 03205230    | 3            | J          | 1,5 | 4,0 | 1,125 | 50,0 | 7,5  | 1,45 | 0,1  | 6,06 | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144020J3R005Z4.0-HXT | 03205235    | 3            | J          | 2,0 | 4,0 | 1,5   | 50,0 | 10,0 | 1,94 | 0,05 | 4,29 | 0,9 | -1,0  | 4     | Cylindrical | ■              |
| JME144020J3R010Z4.0-HXT | 03205237    | 3            | J          | 2,0 | 4,0 | 1,5   | 50,0 | 10,0 | 1,94 | 0,1  | 4,31 | 0,9 | -1,0  | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JME144 Side milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>   |                  |                  |                 |                 | v <sub>c</sub>                     |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|------------------|------------------|------------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                    |                    | 1.0              | 1.2              | 1.5              | 2.0             | 3               |                                    |
| H3  | M/A                                                                               | 0.0500<br>0,0500   | 0.095<br>0,095     | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.040<br>0,0016 | 95 (65 — 120)<br>310 (220 — 390)   |
| H5  | M/A                                                                               | 0.0500<br>0,0500   | 0.22<br>0,22       | 0.014<br>0,00055 | 0.017<br>0,00065 | 0.020<br>0,00080 | 0.028<br>0,0011 | 0.042<br>0,0017 | 165 (140 — 190)<br>540 (460 — 620) |
| H7  | M/A                                                                               | 0.0500<br>0,0500   | 0.095<br>0,095     | 0.013<br>0,00050 | 0.016<br>0,00065 | 0.020<br>0,00080 | 0.026<br>0,0010 | 0.040<br>0,0016 | 95 (65 — 120)<br>310 (220 — 390)   |
| H8  | M/A                                                                               | 0.0500<br>0,0500   | 0.22<br>0,22       | 0.014<br>0,00055 | 0.017<br>0,00065 | 0.020<br>0,00080 | 0.028<br>0,0011 | 0.042<br>0,0017 | 165 (140 — 190)<br>540 (460 — 620) |
| H11 | M/A                                                                               | 0.0500<br>0,0500   | 0.22<br>0,22       | 0.014<br>0,00055 | 0.017<br>0,00065 | 0.020<br>0,00080 | 0.028<br>0,0011 | 0.042<br>0,0017 | 210 (180 — 240)<br>690 (600 — 780) |
| H12 | M/A                                                                               | 0.0500<br>0,0500   | 0.22<br>0,22       | 0.014<br>0,00055 | 0.017<br>0,00065 | 0.020<br>0,00080 | 0.028<br>0,0011 | 0.042<br>0,0017 | 190 (160 — 220)<br>620 (530 — 720) |
| H21 | M/A                                                                               | 0.0500<br>0,0500   | 0.22<br>0,22       | 0.014<br>0,00055 | 0.017<br>0,00065 | 0.020<br>0,00080 | 0.028<br>0,0011 | 0.042<br>0,0017 | 165 (140 — 190)<br>540 (460 — 620) |
| H31 | M/A                                                                               | 0.0500<br>0,0500   | 0.22<br>0,22       | 0.014<br>0,00055 | 0.017<br>0,00065 | 0.020<br>0,00080 | 0.028<br>0,0011 | 0.042<br>0,0017 | 125 (110 — 140)<br>410 (370 — 450) |

## Cutting data – JME144 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>    |                   |                   |                  |                  | v <sub>c</sub>                     |
|-----|-----------------------------------------------------------------------------------|--------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------------------------|
|     |                                                                                   |                    | 1.0               | 1.2               | 1.5               | 2.0              | 3,0              |                                    |
| H3  | M/A                                                                               | 0.0090<br>0,0090   | 0.0065<br>0,00026 | 0.0075<br>0,00030 | 0.0095<br>0,00038 | 0.013<br>0,00050 | 0.019<br>0,00075 | 65 (43 — 84)<br>215 (150 — 270)    |
| H5  | M/A                                                                               | 0.019<br>0,019     | 0.012<br>0,00048  | 0.014<br>0,00055  | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.036<br>0,0014  | 115 (96 — 130)<br>375 (320 — 420)  |
| H7  | M/A                                                                               | 0.0090<br>0,0090   | 0.0065<br>0,00026 | 0.0075<br>0,00030 | 0.0095<br>0,00038 | 0.013<br>0,00050 | 0.019<br>0,00075 | 65 (43 — 84)<br>215 (150 — 270)    |
| H8  | M/A                                                                               | 0.019<br>0,019     | 0.012<br>0,00048  | 0.014<br>0,00055  | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.036<br>0,0014  | 115 (96 — 130)<br>375 (320 — 420)  |
| H11 | M/A                                                                               | 0.019<br>0,019     | 0.012<br>0,00048  | 0.014<br>0,00055  | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.036<br>0,0014  | 150 (130 — 170)<br>490 (430 — 550) |
| H12 | M/A                                                                               | 0.019<br>0,019     | 0.012<br>0,00048  | 0.014<br>0,00055  | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.036<br>0,0014  | 135 (120 — 160)<br>445 (400 — 520) |
| H21 | M/A                                                                               | 0.019<br>0,019     | 0.012<br>0,00048  | 0.014<br>0,00055  | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.036<br>0,0014  | 115 (96 — 130)<br>375 (320 — 420)  |
| H31 | M/A                                                                               | 0.019<br>0,019     | 0.012<br>0,00048  | 0.014<br>0,00055  | 0.018<br>0,00070  | 0.024<br>0,00095 | 0.036<br>0,0014  | 90 (73 — 100)<br>295 (240 — 320)   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

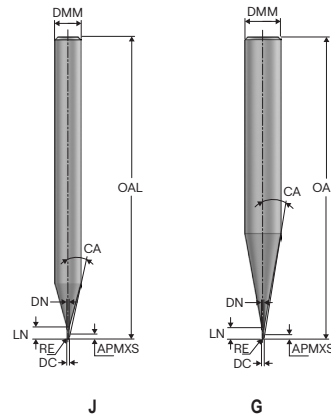
a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

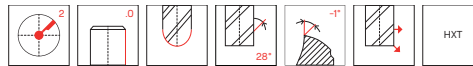


## JMB112

Miniature – Hardened steel – Ball nose – 2 Flutes – Cylindrical



- Tolerances:
- Run-out= <0,005 mm
- DMM= h5
- DC= <Ø0,6= 0/-0,008 mm
- DC= ≥Ø0,6= 0/-0,01 mm
- RE=DC <Ø1,5= ±0,004 mm
- RE=DC ≥Ø1,5= ±0,005 mm



| Designation          | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN  | DN   | RE   | CA°   | NA° | PSIR° | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|-----|-----|-------|------|-----|------|------|-------|-----|-------|-------|-------------|----------------|
| JMB112002G1BZ2.0-HXT | 03204964    | 1            | G          | 0,2 | 4,0 | 0,15  | 40,0 | 0,4 | 0,18 | 0,1  | 15,11 | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112003G1BZ2.0-HXT | 03204966    | 1            | G          | 0,3 | 4,0 | 0,225 | 40,0 | 0,6 | 0,28 | 0,15 | 14,77 | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112004G1BZ2.0-HXT | 03204968    | 1            | G          | 0,4 | 4,0 | 0,3   | 40,0 | 0,8 | 0,37 | 0,2  | 14,32 | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112005G1BZ2.0-HXT | 03204970    | 1            | G          | 0,5 | 4,0 | 0,5   | 40,0 | 1,0 | 0,46 | 0,25 | 13,97 | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112006G1BZ2.0-HXT | 03204977    | 1            | G          | 0,6 | 4,0 | 0,6   | 40,0 | 1,2 | 0,56 | 0,3  | 13,64 | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112008G1BZ2.0-HXT | 03204984    | 1            | G          | 0,8 | 6,0 | 0,8   | 50,0 | 1,6 | 0,76 | 0,4  | 13,96 | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112010G1BZ2.0-HXT | 03204991    | 1            | G          | 1,0 | 6,0 | 1,0   | 50,0 | 2,0 | 0,95 | 0,5  | 13,49 | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112012G1BZ2.0-HXT | 03205000    | 1            | G          | 1,2 | 6,0 | 1,2   | 50,0 | 2,4 | 1,15 | 0,6  | 13,02 | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112015G1BZ2.0-HXT | 03205009    | 1            | G          | 1,5 | 6,0 | 1,5   | 50,0 | 3,0 | 1,45 | 0,75 | 12,2  | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112002J2BZ2.0-HXT | 03204965    | 2            | J          | 0,2 | 4,0 | 0,15  | 40,0 | 0,6 | 0,18 | 0,1  | 14,33 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112003J2BZ2.0-HXT | 03204967    | 2            | J          | 0,3 | 4,0 | 0,225 | 40,0 | 0,9 | 0,28 | 0,15 | 13,85 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112004J2BZ2.0-HXT | 03204969    | 2            | J          | 0,4 | 4,0 | 0,3   | 40,0 | 1,2 | 0,37 | 0,2  | 13,3  | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112005J2BZ2.0-HXT | 03204971    | 2            | J          | 0,5 | 4,0 | 0,5   | 40,0 | 1,5 | 0,46 | 0,25 | 12,85 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112005G2BZ2.0-HXT | 03204972    | 2            | G          | 0,5 | 6,0 | 0,5   | 50,0 | 1,5 | 0,46 | 0,25 | 9,91  | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112006J2BZ2.0-HXT | 03204978    | 2            | J          | 0,6 | 4,0 | 0,6   | 50,0 | 2,0 | 0,56 | 0,3  | 12,09 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112006G2BZ2.0-HXT | 03204979    | 2            | G          | 0,6 | 6,0 | 0,6   | 50,0 | 2,0 | 0,56 | 0,3  | 9,62  | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112008J2BZ2.0-HXT | 03204985    | 2            | J          | 0,8 | 4,0 | 0,8   | 50,0 | 2,5 | 0,76 | 0,4  | 11,34 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112008G2BZ2.0-HXT | 03204986    | 2            | G          | 0,8 | 6,0 | 0,8   | 50,0 | 2,5 | 0,76 | 0,4  | 9,33  | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112010J2BZ2.0-HXT | 03204992    | 2            | J          | 1,0 | 4,0 | 1,0   | 40,0 | 4,0 | 0,95 | 0,5  | 9,49  | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112010G2BZ2.0-HXT | 03204993    | 2            | G          | 1,0 | 6,0 | 1,0   | 50,0 | 4,0 | 0,95 | 0,5  | 8,49  | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112012J2BZ2.0-HXT | 03205001    | 2            | J          | 1,2 | 4,0 | 1,2   | 50,0 | 4,5 | 1,15 | 0,6  | 8,83  | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112012G2BZ2.0-HXT | 03205002    | 2            | G          | 1,2 | 6,0 | 1,2   | 50,0 | 4,5 | 1,15 | 0,6  | 8,21  | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112015J2BZ2.0-HXT | 03205010    | 2            | J          | 1,5 | 4,0 | 1,5   | 50,0 | 5,0 | 1,45 | 0,75 | 8,1   | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112015G2BZ2.0-HXT | 03205011    | 2            | G          | 1,5 | 6,0 | 1,5   | 50,0 | 5,0 | 1,45 | 0,75 | 10,14 | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112020J2BZ2.0-HXT | 03205024    | 2            | J          | 2,0 | 4,0 | 2,0   | 50,0 | 6,0 | 1,94 | 1,0  | 6,6   | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112020G2BZ2.0-HXT | 03205025    | 2            | G          | 2,0 | 6,0 | 2,0   | 50,0 | 6,0 | 1,94 | 1,0  | 9,1   | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112030J2BZ2.0-HXT | 03205037    | 2            | J          | 3,0 | 4,0 | 3,0   | 50,0 | 9,0 | 2,85 | 1,5  | 3,04  | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112030G2BZ2.0-HXT | 03205038    | 2            | G          | 3,0 | 6,0 | 3,0   | 50,0 | 9,0 | 2,85 | 1,5  | 6,35  | —   | -1,0  | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

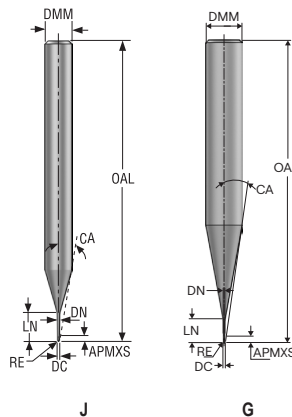
Graphite

X-Heads

Minimaster

## JMB112

Miniature – Hardened steel – Ball nose – 2 Flutes – Cylindrical



—Tolerances:

—Run-out= &lt;0,005 mm

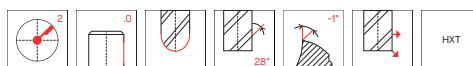
—DMM= h5

—DC= &lt;Ø0,6= 0/-0,008 mm

—DC= ≥Ø0,6= 0/-0,01 mm

—RE=DC &lt;Ø1,5= ±0,004 mm

—RE=DC ≥Ø1,5= ±0,005 mm

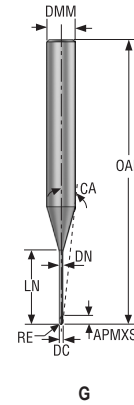


| Designation          | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°   | NA° | PSIR° | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|-------|-----|-------|-------|-------------|----------------|
|                      |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm   |       |     |       |       |             |                |
| JMB112005J3BZ2.0-HXT | 03204973    | 3            | J          | 0,5 | 4,0 | 0,5   | 40,0 | 2,5  | 0,46 | 0,25 | 11,49 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112005G3BZ2.0-HXT | 03204974    | 3            | G          | 0,5 | 6,0 | 0,5   | 50,0 | 3,5  | 0,46 | 0,25 | 8,81  | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112006J3BZ2.0-HXT | 03204980    | 3            | J          | 0,6 | 4,0 | 0,6   | 40,0 | 3,0  | 0,56 | 0,3  | 10,83 | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112006G3BZ2.0-HXT | 03204981    | 3            | G          | 0,6 | 6,0 | 0,6   | 50,0 | 4,0  | 0,56 | 0,3  | 8,56  | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112008J3BZ2.0-HXT | 03204987    | 3            | J          | 0,8 | 4,0 | 0,8   | 40,0 | 4,0  | 0,76 | 0,4  | 9,67  | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112008G3BZ2.0-HXT | 03204988    | 3            | G          | 0,8 | 6,0 | 0,8   | 50,0 | 5,5  | 0,76 | 0,4  | 10,1  | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112010J3BZ2.0-HXT | 03204994    | 3            | J          | 1,0 | 4,0 | 1,0   | 40,0 | 5,0  | 0,95 | 0,5  | 8,6   | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112010G3BZ2.0-HXT | 03204995    | 3            | G          | 1,0 | 6,0 | 1,0   | 50,0 | 7,0  | 0,95 | 0,5  | 9,06  | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112012J3BZ2.0-HXT | 03205003    | 3            | J          | 1,2 | 4,0 | 1,2   | 50,0 | 6,0  | 1,15 | 0,6  | 7,65  | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112012G3BZ2.0-HXT | 03205004    | 3            | G          | 1,2 | 6,0 | 1,2   | 50,0 | 8,0  | 1,15 | 0,6  | 8,42  | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112015J3BZ2.0-HXT | 03205012    | 3            | J          | 1,5 | 4,0 | 1,5   | 40,0 | 7,5  | 1,45 | 0,75 | 6,4   | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112015G3BZ2.0-HXT | 03205013    | 3            | G          | 1,5 | 6,0 | 1,5   | 50,0 | 10,0 | 1,45 | 0,75 | 7,31  | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112020J3BZ2.0-HXT | 03205026    | 3            | J          | 2,0 | 4,0 | 2,0   | 50,0 | 10,0 | 1,94 | 1,0  | 4,61  | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112020G3BZ2.0-HXT | 03205027    | 3            | G          | 2,0 | 6,0 | 2,0   | 50,0 | 12,0 | 1,94 | 1,0  | 6,19  | —   | -1,0  | 2     | Cylindrical | ■              |
| JMB112030J3BZ2.0-HXT | 03205039    | 3            | J          | 3,0 | 4,0 | 3,0   | 50,0 | 15,0 | 2,85 | 1,5  | 1,91  | 0,9 | -1,0  | 2     | Cylindrical | ■              |
| JMB112030G3BZ2.0-HXT | 03205040    | 3            | G          | 3,0 | 6,0 | 3,0   | 60,0 | 15,0 | 2,85 | 1,5  | 4,41  | —   | -1,0  | 2     | Cylindrical | ■              |

■ Stocked standard.

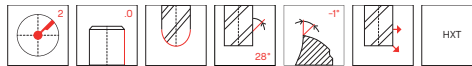
## JMB112

Miniature – Hardened steel – Ball nose – 2 Flutes – Cylindrical



G

- Tolerances:
- Run-out = <0,005 mm
- DMM = h5
- DC = <Ø0,6 = 0/-0,008 mm
- DC = ≥Ø0,6 = 0/-0,01 mm
- RE = DC <Ø1,5 = ±0,004 mm
- RE = DC ≥Ø1,5 = ±0,005 mm



| Designation          | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°  | PSIR° | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|------|-------|-------|-------------|----------------|
|                      |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm   |      |       |       |             |                |
| JMB112006G4BZ2.0-HXT | 03204983    | 4            | G          | 0,6 | 6,0 | 0,6   | 50,0 | 6,0  | 0,56 | 0,3  | 9,86 | -1,0  | 2     | Cylindrical | ■              |
| JMB112008G4BZ2.0-HXT | 03204990    | 4            | G          | 0,8 | 6,0 | 0,8   | 50,0 | 8,0  | 0,76 | 0,4  | 8,65 | -1,0  | 2     | Cylindrical | ■              |
| JMB112010G4BZ2.0-HXT | 03204998    | 4            | G          | 1,0 | 6,0 | 1,0   | 50,0 | 10,0 | 0,95 | 0,5  | 7,63 | -1,0  | 2     | Cylindrical | ■              |
| JMB112015G4BZ2.0-HXT | 03205015    | 4            | G          | 1,5 | 6,0 | 1,5   | 70,0 | 15,0 | 1,45 | 0,75 | 5,7  | -1,0  | 2     | Cylindrical | ■              |
| JMB112020G4BZ2.0-HXT | 03205029    | 4            | G          | 2,0 | 6,0 | 2,0   | 60,0 | 18,0 | 1,94 | 1,0  | 4,68 | -1,0  | 2     | Cylindrical | ■              |
| JMB112030G4BZ2.0-HXT | 03205042    | 4            | G          | 3,0 | 6,0 | 3,0   | 80,0 | 30,0 | 2,85 | 1,5  | 2,51 | -1,0  | 2     | Cylindrical | ■              |
| JMB112010G6BZ2.0-HXT | 03205054    | 6            | G          | 1,0 | 6,0 | 1,0   | 60,0 | 20,0 | 0,95 | 0,5  | 4,99 | -1,0  | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – JMB112 Copy milling roughing

| SMG |  | a <sub>e</sub> /DC      | a <sub>p</sub> /DC  | f <sub>z</sub>           |                          |                          |                          |                         |                         |                         |                         |                        |                        |                        |                        |                        | v <sub>c</sub>                      |
|-----|-----------------------------------------------------------------------------------|-------------------------|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|-------------------------------------|
|     |                                                                                   |                         |                     | 0.2                      | 0.3                      | 0.4                      | 0.5                      | 0.6                     | 0.8                     | 1                       | 1.2                     | 1.5                    | 1.8                    | 2                      | 2.5                    | 3                      |                                     |
| H3  | M                                                                                 | 0.0500<br><i>0,0500</i> | 0.30<br><i>0,30</i> | 0.0036<br><i>0,00014</i> | 0.0055<br><i>0,00022</i> | 0.0070<br><i>0,00028</i> | 0.0090<br><i>0,00036</i> | 0.011<br><i>0,00044</i> | 0.014<br><i>0,00055</i> | 0.018<br><i>0,00070</i> | 0.022<br><i>0,00085</i> | 0.026<br><i>0,0010</i> | 0.032<br><i>0,0013</i> | 0.036<br><i>0,0014</i> | 0.044<br><i>0,0017</i> | 0.048<br><i>0,0019</i> | 150 (130 — 170)<br>490 (430 — 550)  |
| H5  | M                                                                                 | 0.0500<br><i>0,0500</i> | 0.44<br><i>0,44</i> | 0.0040<br><i>0,00016</i> | 0.0060<br><i>0,00024</i> | 0.0080<br><i>0,00032</i> | 0.010<br><i>0,00040</i>  | 0.012<br><i>0,00048</i> | 0.016<br><i>0,00065</i> | 0.020<br><i>0,00080</i> | 0.024<br><i>0,00095</i> | 0.030<br><i>0,0012</i> | 0.036<br><i>0,0014</i> | 0.040<br><i>0,0016</i> | 0.050<br><i>0,0020</i> | 0.060<br><i>0,0024</i> | 220 (200 — 240)<br>720 (660 — 780)  |
| H7  | M                                                                                 | 0.0500<br><i>0,0500</i> | 0.30<br><i>0,30</i> | 0.0036<br><i>0,00014</i> | 0.0055<br><i>0,00022</i> | 0.0070<br><i>0,00028</i> | 0.0090<br><i>0,00036</i> | 0.011<br><i>0,00044</i> | 0.014<br><i>0,00055</i> | 0.018<br><i>0,00070</i> | 0.022<br><i>0,00085</i> | 0.026<br><i>0,0010</i> | 0.032<br><i>0,0013</i> | 0.036<br><i>0,0014</i> | 0.044<br><i>0,0017</i> | 0.048<br><i>0,0019</i> | 150 (130 — 170)<br>490 (430 — 550)  |
| H8  | M                                                                                 | 0.0500<br><i>0,0500</i> | 0.44<br><i>0,44</i> | 0.0040<br><i>0,00016</i> | 0.0060<br><i>0,00024</i> | 0.0080<br><i>0,00032</i> | 0.010<br><i>0,00040</i>  | 0.012<br><i>0,00048</i> | 0.016<br><i>0,00065</i> | 0.020<br><i>0,00080</i> | 0.024<br><i>0,00095</i> | 0.030<br><i>0,0012</i> | 0.036<br><i>0,0014</i> | 0.040<br><i>0,0016</i> | 0.048<br><i>0,0019</i> | 0.050<br><i>0,0020</i> | 220 (200 — 240)<br>720 (660 — 780)  |
| H11 | M                                                                                 | 0.0500<br><i>0,0500</i> | 0.44<br><i>0,44</i> | 0.0040<br><i>0,00016</i> | 0.0060<br><i>0,00024</i> | 0.0080<br><i>0,00032</i> | 0.010<br><i>0,00040</i>  | 0.012<br><i>0,00048</i> | 0.016<br><i>0,00065</i> | 0.020<br><i>0,00080</i> | 0.024<br><i>0,00095</i> | 0.030<br><i>0,0012</i> | 0.036<br><i>0,0014</i> | 0.040<br><i>0,0016</i> | 0.050<br><i>0,0020</i> | 0.060<br><i>0,0024</i> | 280 (250 — 310)<br>920 (830 — 1000) |
| H12 | M                                                                                 | 0.0500<br><i>0,0500</i> | 0.44<br><i>0,44</i> | 0.0040<br><i>0,00016</i> | 0.0060<br><i>0,00024</i> | 0.0080<br><i>0,00032</i> | 0.010<br><i>0,00040</i>  | 0.012<br><i>0,00048</i> | 0.016<br><i>0,00065</i> | 0.020<br><i>0,00080</i> | 0.024<br><i>0,00095</i> | 0.030<br><i>0,0012</i> | 0.036<br><i>0,0014</i> | 0.040<br><i>0,0016</i> | 0.048<br><i>0,0019</i> | 0.050<br><i>0,0020</i> | 255 (230 — 280)<br>840 (760 — 910)  |
| H21 | M                                                                                 | 0.0500<br><i>0,0500</i> | 0.44<br><i>0,44</i> | 0.0040<br><i>0,00016</i> | 0.0060<br><i>0,00024</i> | 0.0080<br><i>0,00032</i> | 0.010<br><i>0,00040</i>  | 0.012<br><i>0,00048</i> | 0.016<br><i>0,00065</i> | 0.020<br><i>0,00080</i> | 0.024<br><i>0,00095</i> | 0.030<br><i>0,0012</i> | 0.036<br><i>0,0014</i> | 0.040<br><i>0,0016</i> | 0.048<br><i>0,0019</i> | 0.050<br><i>0,0020</i> | 220 (200 — 240)<br>720 (660 — 780)  |
| H31 | M                                                                                 | 0.0500<br><i>0,0500</i> | 0.44<br><i>0,44</i> | 0.0040<br><i>0,00016</i> | 0.0060<br><i>0,00024</i> | 0.0080<br><i>0,00032</i> | 0.010<br><i>0,00040</i>  | 0.012<br><i>0,00048</i> | 0.016<br><i>0,00065</i> | 0.020<br><i>0,00080</i> | 0.024<br><i>0,00095</i> | 0.030<br><i>0,0012</i> | 0.034<br><i>0,0013</i> | 0.036<br><i>0,0014</i> | 0.042<br><i>0,0017</i> | 0.044<br><i>0,0017</i> | 165 (150 — 180)<br>540 (500 — 590)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values



Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## PLASTIC AND CFRP

Seco presents a complete solid carbide end mill product range for the machining of glass and carbon fiber reinforced plastics. It consists of diamond-coated and uncoated solid carbide and PCD end mills incorporating different geometries as well as with PCD-brazed cutting edges. This is a product range offering optimized tools for difficult cutting conditions on challenging workpiece materials.

- JC860, JC870, JC871, JC899, JPD890, J93F and J28 for sharp corner type.
- JC845, JC880, JC885 and JC898 for radius type.
- D8961, JC875, JC876, JC877 and JPD880 with 45° chamfer type.
- JC850 and JPD850 for ball-nose type.

#### Tool Selection Plastic and CFRP

|                     |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
|---------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                     |             |    |    |    |    |    |    |
| Name                |             | D8961                                                                               | JC845                                                                               | JC850                                                                               | JC860                                                                                | JC870                                                                                 | JC871                                                                                 |
| Page(s)             |             | 539                                                                                 | 542                                                                                 | 544                                                                                 | 546                                                                                  | 548                                                                                   | 554                                                                                   |
| Family name         |             | COMPOSITE                                                                           | COMPOSITE                                                                           | COMPOSITE                                                                           | COMPOSITE                                                                            | COMPOSITE                                                                             | COMPOSITE                                                                             |
| Type of mill        |             |    |    |    |    |    |    |
| Shank               | Cylindrical |    |    |    |    |    |    |
|                     | Weldon      |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| Number of Flutes    |             | 6                                                                                   | 3                                                                                   | 4                                                                                   | 5,6,8,9                                                                              |                                                                                       |                                                                                       |
| CSP                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| Diameter range      | Metric      | 5-16                                                                                | 6-8                                                                                 | 3-12                                                                                | 6-12                                                                                 | 3-12                                                                                  | 3-12                                                                                  |
|                     | Inch        | 1/4 - 5/8                                                                           |                                                                                     |                                                                                     |                                                                                      | 1/4 -1/2                                                                              | 1/4 -1/2                                                                              |
| Length availability |             | 2,3                                                                                 | 2                                                                                   | 2                                                                                   | 2                                                                                    | 2                                                                                     | 2                                                                                     |
| Operation           |             |  |  |                                                                                     |  |  |  |
|                     |             |  |  |                                                                                     |  |  |  |
|                     |             |                                                                                     |                                                                                     |  |                                                                                      |                                                                                       |                                                                                       |
| SMG                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| TS1                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| TS2                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| TS3                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| TP1                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| TP2                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| TP3                 |             | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    | ●                                                                                     | ●                                                                                     |
| Honeycomb*          |             |                                                                                     |                                                                                     |                                                                                     | ●                                                                                    | ●                                                                                     | ●                                                                                     |

■ Stock standard □ Weldon available, delivery time is 3 days.

● Preferred choice ○ Alternative choice

#### Tool Selection Plastic and CFRP

|                     |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
|---------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
|                     |             |    |    |    |    |    |    |    | Universal                       |
|                     |             |    |    |    |    |    |    |    | Steel and cast iron             |
| Name                |             | JC875                                                                               | JC876                                                                               | JC877                                                                               | JC880                                                                               | JC885                                                                                 | JC898                                                                                 | JC899                                                                                 | Stainless steel and S-materials |
| Page(s)             |             | 560                                                                                 | 564                                                                                 | 568                                                                                 | 572                                                                                 | 574                                                                                   | 576                                                                                   | 578                                                                                   |                                 |
| Family name         |             | COMPOSITE                                                                           | COMPOSITE                                                                           | COMPOSITE                                                                           | COMPOSITE                                                                           | COMPOSITE                                                                             | COMPOSITE                                                                             | COMPOSITE                                                                             | Non ferrous                     |
| Type of mill        |             |    |    |    |    |    |    |    |                                 |
| Shank               | Cylindrical | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                     | ■                                                                                     | ■                                                                                     | Hard                            |
|                     | Weldon      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
| Number of Flutes    |             | 5,6,10                                                                              | 6,8,10,12,14                                                                        | 6,8,10,12,14                                                                        | 4                                                                                   | 4                                                                                     | 4                                                                                     | 4                                                                                     | Plastic and cfrp                |
| CSP                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | ■                                                                                     |                                                                                       |                                 |
| Diameter range      | Metric      | 3-10                                                                                | 3-12                                                                                | 3-12                                                                                | 4-20                                                                                | 4-10                                                                                  | 8-15                                                                                  | 8,5-14,8                                                                              | Graphite                        |
|                     | Inch        | 1/4                                                                                 | 1/4-3/8                                                                             | 1/4                                                                                 |                                                                                     |                                                                                       |                                                                                       | 3/8                                                                                   |                                 |
| Length availability |             | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                     | 2                                                                                     | 2                                                                                     | X-Heads                         |
| Operation           |             |  |  |  |  |  |  |                                                                                       |                                 |
|                     |             |  |  |  |  |  |  |  | Minimaster                      |
|                     |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
| SMG                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       | Minimaster                      |
| TS1                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |
| TS2                 |             | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                     |                                                                                       |                                                                                       | Minimaster                      |
| TS3                 |             | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                     |                                                                                       |                                                                                       |                                 |
| TP1                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       | Minimaster                      |
| TP2                 |             | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                     |                                                                                       |                                                                                       |                                 |
| TP3                 |             | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                     |                                                                                       |                                                                                       | Minimaster                      |
| Honeycomb*          |             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                 |

■ Stock standard □ Weldon available, delivery time is 3 days.

• Preferred choice ○ Alternative choice

#### Tool Selection Plastic and CFRP

| Universal                       |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|---------------------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Steel and cast iron             |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|                                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Stainless steel and S-materials |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|                                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Non ferrous                     |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|                                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Hard                            |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|                                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Plastic and cfrp                |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|                                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Graphite                        |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|                                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| X-Heads                         |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|                                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Minimaster                      |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|                                 |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Name                            |             | JPD850                                                                              | JPD880                                                                              | JPD890                                                                              | J93F                                                                                  | J28                                                                                   |
| Page(s)                         |             | 581                                                                                 | 583                                                                                 | 585                                                                                 | 587                                                                                   | 589                                                                                   |
| Family name                     |             | PCD                                                                                 | PCD                                                                                 | PCD                                                                                 | VHM                                                                                   | VHM                                                                                   |
| Type of mill                    |             |    |    |    |    |    |
| Shank                           | Cylindrical |    |    |    |    |    |
|                                 | Weldon      |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Number of Flutes                |             | 2                                                                                   | 2                                                                                   | 2                                                                                   | 2                                                                                     | 1                                                                                     |
| CSP                             |             |    |    |    |                                                                                       |                                                                                       |
| Diameter range                  | Metric      | 4-10                                                                                | 6-16                                                                                | 6-12                                                                                | 1,5-20                                                                                | 3-12                                                                                  |
|                                 | Inch        |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Length availability             |             | 2                                                                                   | 2,3                                                                                 | 2,3                                                                                 | 1,2,3,4                                                                               | 2                                                                                     |
| Operation                       |             |                                                                                     |  |  |  |  |
|                                 |             |                                                                                     |  |  |  |  |
|                                 |             |  |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| SMG                             |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| TS1                             |             |                                                                                     |                                                                                     |                                                                                     | •                                                                                     | •                                                                                     |
| TS2                             |             | •                                                                                   | •                                                                                   | •                                                                                   |                                                                                       |                                                                                       |
| TS3                             |             | •                                                                                   | •                                                                                   | •                                                                                   |                                                                                       |                                                                                       |
| TP1                             |             |                                                                                     |                                                                                     |                                                                                     | •                                                                                     |                                                                                       |
| TP2                             |             | •                                                                                   | •                                                                                   | •                                                                                   |                                                                                       |                                                                                       |
| TP3                             |             | •                                                                                   | •                                                                                   | •                                                                                   |                                                                                       |                                                                                       |
| Honeycomb*                      |             |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |

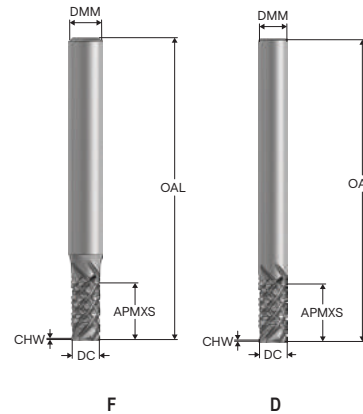
■ Stock standard □ Weldon available, delivery time is 3 days.

● Preferred choice ○ Alternative choice

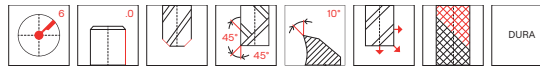


D8961

Composite – Router – 6 Flutes – Cylindrical – Chamfer



— Tolerances:  
— DMM= h5  
— DC= -0/-0,05 mm



| Designation      | Grade | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CHW   | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|------|------|-------|-------|-------|-------|-------------|----------------|
| D8961-050F2C.0Z6 | DURA  | 10318178    | 2            | F          | 5,0  | 6,0  | 10,0  | 65,0  | 0,152 | 6     | Cylindrical | ■              |
| D8961-060D2C.0Z6 | DURA  | 10318180    | 2            | D          | 6,0  | 6,0  | 12,0  | 65,0  | 0,152 | 6     | Cylindrical | ■              |
| D8961-080D2C.0Z6 | DURA  | 10318182    | 2            | D          | 8,0  | 8,0  | 16,0  | 70,0  | 0,203 | 6     | Cylindrical | ■              |
| D8961-100D2C.0Z6 | DURA  | 10318184    | 2            | D          | 10,0 | 10,0 | 20,0  | 75,0  | 0,203 | 6     | Cylindrical | ■              |
| D8961-120D2C.0Z6 | DURA  | 10318186    | 2            | D          | 12,0 | 12,0 | 24,0  | 76,0  | 0,254 | 6     | Cylindrical | ■              |
| D8961-140D2C.0Z6 | DURA  | 10318188    | 2            | D          | 14,0 | 14,0 | 28,0  | 82,0  | 0,254 | 6     | Cylindrical | ■              |
| D8961-160D2C.0Z6 | DURA  | 10318190    | 2            | D          | 16,0 | 16,0 | 32,0  | 94,0  | 0,254 | 6     | Cylindrical | ■              |
| D8961-050F3C.0Z6 | DURA  | 10318179    | 3            | F          | 5,0  | 6,0  | 15,0  | 70,0  | 0,152 | 6     | Cylindrical | ■              |
| D8961-060D3C.0Z6 | DURA  | 10318181    | 3            | D          | 6,0  | 6,0  | 18,0  | 70,0  | 0,152 | 6     | Cylindrical | ■              |
| D8961-080D3C.0Z6 | DURA  | 10318183    | 3            | D          | 8,0  | 8,0  | 24,0  | 75,0  | 0,203 | 6     | Cylindrical | ■              |
| D8961-100D3C.0Z6 | DURA  | 10318185    | 3            | D          | 10,0 | 10,0 | 30,0  | 90,0  | 0,203 | 6     | Cylindrical | ■              |
| D8961-120D3C.0Z6 | DURA  | 10318187    | 3            | D          | 12,0 | 12,0 | 36,0  | 90,0  | 0,254 | 6     | Cylindrical | ■              |
| D8961-140D3C.0Z6 | DURA  | 10318189    | 3            | D          | 14,0 | 14,0 | 42,0  | 96,0  | 0,254 | 6     | Cylindrical | ■              |
| D8961-160D3C.0Z6 | DURA  | 10318191    | 3            | D          | 16,0 | 16,0 | 48,0  | 110,0 | 0,254 | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

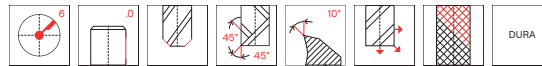
D8961

Composite – Router – 6 Flutes – Cylindrical – Chamfer – Inch



D

—Tolerances:  
—DMM=+.0001"/-0.0004"  
—DC=0/-0.002"



| Designation       | Grade | Item number | Length index | Tool shape | DC            | DMM           | APMXS         | OAL           | CHW           | PCEDC | Shank       | Stock standard |
|-------------------|-------|-------------|--------------|------------|---------------|---------------|---------------|---------------|---------------|-------|-------------|----------------|
| D8961-.250D2C.0Z6 | DURA  | 10318192    | 2            | D          | inch<br>0.250 | inch<br>0.250 | inch<br>0.500 | inch<br>2.500 | inch<br>0.006 | 6     | Cylindrical | ■              |
| D8961-.313D2C.0Z6 | DURA  | 10318194    | 2            | D          | 0.313         | 0.313         | 0.625         | 2.500         | 0.008         | 6     | Cylindrical | ■              |
| D8961-.375D2C.0Z6 | DURA  | 10318196    | 2            | D          | 0.375         | 0.375         | 0.750         | 2.500         | 0.008         | 6     | Cylindrical | ■              |
| D8961-.500D2C.0Z6 | DURA  | 10318198    | 2            | D          | 0.500         | 0.500         | 1.000         | 3.000         | 0.010         | 6     | Cylindrical | ■              |
| D8961-.625D2C.0Z6 | DURA  | 10318200    | 2            | D          | 0.625         | 0.625         | 1.250         | 3.500         | 0.010         | 6     | Cylindrical | ■              |
| D8961-.250D3C.0Z6 | DURA  | 10318193    | 3            | D          | 0.250         | 0.250         | 0.750         | 3.000         | 0.006         | 6     | Cylindrical | ■              |
| D8961-.313D3C.0Z6 | DURA  | 10318195    | 3            | D          | 0.313         | 0.313         | 0.937         | 3.000         | 0.008         | 6     | Cylindrical | ■              |
| D8961-.375D3C.0Z6 | DURA  | 10318197    | 3            | D          | 0.375         | 0.375         | 1.125         | 3.000         | 0.008         | 6     | Cylindrical | ■              |
| D8961-.500D3C.0Z6 | DURA  | 10318199    | 3            | D          | 0.500         | 0.500         | 1.500         | 4.000         | 0.010         | 6     | Cylindrical | ■              |
| D8961-.625D3C.0Z6 | DURA  | 10318201    | 3            | D          | 0.625         | 0.625         | 1.875         | 4.000         | 0.010         | 6     | Cylindrical | ■              |

■ Stocked standard.

### Cutting data – D8961 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                |                 |                |                 |                 |                | v <sub>c</sub>                     |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|----------------|-----------------|----------------|-----------------|-----------------|----------------|------------------------------------|
|     |                                                                                   |                    |                    | 5               | 6              | 8               | 10             | 12              | 14              | 16             |                                    |
| TS2 | D                                                                                 | 0,2<br>0.20        | 2<br>2.0           | 0,025<br>0.0010 | 0,03<br>0.0012 | 0,034<br>0.0013 | 0,04<br>0.0016 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,06<br>0.0024 | 170 (150 — 190)<br>560 (500 — 620) |
| TS3 | D                                                                                 | 0,2<br>0.20        | 2<br>2.0           | 0,025<br>0.0010 | 0,03<br>0.0012 | 0,034<br>0.0013 | 0,04<br>0.0016 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,06<br>0.0024 | 115 (91 — 140)<br>375 (300 — 450)  |
| TP2 | D                                                                                 | 0,2<br>0.20        | 2<br>2.0           | 0,025<br>0.0010 | 0,03<br>0.0012 | 0,034<br>0.0013 | 0,04<br>0.0016 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,06<br>0.0024 | 115 (91 — 160)<br>375 (300 — 520)  |
| TP3 | D                                                                                 | 0,2<br>0.20        | 2<br>2.0           | 0,025<br>0.0010 | 0,03<br>0.0012 | 0,034<br>0.0013 | 0,04<br>0.0016 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,06<br>0.0024 | 85 (52 — 110)<br>280 (180 — 360)   |

Universal  
iron

Steel and cast  
iron

### Cutting data – D8961 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                  |                  |                 |                |                 | v <sub>c</sub>                     |
|-----|-----------------------------------------------------------------------------------|--------------------|-----------------|-----------------|------------------|------------------|-----------------|----------------|-----------------|------------------------------------|
|     |                                                                                   |                    | 5               | 6               | 8                | 10               | 12              | 14             | 16              |                                    |
| TS2 | D                                                                                 | 1<br>1.0           | 0,02<br>0.00080 | 0,02<br>0.00080 | 0,022<br>0.00085 | 0,022<br>0.00085 | 0,026<br>0.0010 | 0,03<br>0.0012 | 0,032<br>0.0013 | 130 (110 — 140)<br>425 (370 — 450) |
| TS3 | D                                                                                 | 1<br>1.0           | 0,02<br>0.00080 | 0,02<br>0.00080 | 0,022<br>0.00085 | 0,022<br>0.00085 | 0,026<br>0.0010 | 0,03<br>0.0012 | 0,032<br>0.0013 | 90 (70 — 100)<br>295 (230 — 320)   |
| TP2 | D                                                                                 | 1<br>1.0           | 0,02<br>0.00080 | 0,02<br>0.00080 | 0,022<br>0.00085 | 0,022<br>0.00085 | 0,026<br>0.0010 | 0,03<br>0.0012 | 0,032<br>0.0013 | 90 (70 — 120)<br>295 (230 — 390)   |
| TP3 | D                                                                                 | 1<br>1.0           | 0,02<br>0.00080 | 0,02<br>0.00080 | 0,022<br>0.00085 | 0,022<br>0.00085 | 0,026<br>0.0010 | 0,03<br>0.0012 | 0,032<br>0.0013 | 65 (40 — 89)<br>215 (140 — 290)    |

Stainless steel  
and S-materials

Non ferrous

### Cutting data – D8961 Side milling – Inch

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                |                | v <sub>c</sub>                     |
|-----|-------------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|-----------------|----------------|----------------|------------------------------------|
|     |                                                                                     |                    |                    | 1/4             | 5/16            | 3/8             | 1/2            | 5/8            |                                    |
| TS2 | D                                                                                   | 0,2<br>0.20        | 2<br>2.0           | 0,032<br>0.0013 | 0,034<br>0.0013 | 0,038<br>0.0015 | 0,05<br>0.0020 | 0,06<br>0.0024 | 170 (150 — 190)<br>560 (500 — 620) |
| TS3 | D                                                                                   | 0,2<br>0.20        | 2<br>2.0           | 0,032<br>0.0013 | 0,034<br>0.0013 | 0,038<br>0.0015 | 0,05<br>0.0020 | 0,06<br>0.0024 | 115 (91 — 140)<br>375 (300 — 450)  |
| TP2 | D                                                                                   | 0,2<br>0.20        | 2<br>2.0           | 0,032<br>0.0013 | 0,034<br>0.0013 | 0,038<br>0.0015 | 0,05<br>0.0020 | 0,06<br>0.0024 | 115 (91 — 160)<br>375 (300 — 520)  |
| TP3 | D                                                                                   | 0,2<br>0.20        | 2<br>2.0           | 0,032<br>0.0013 | 0,034<br>0.0013 | 0,038<br>0.0015 | 0,05<br>0.0020 | 0,06<br>0.0024 | 85 (52 — 110)<br>280 (180 — 360)   |

Hard

Plastic and cfrp

### Cutting data – D8961 Slot milling – Inch

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>  |                  |                  |                 |                 | v <sub>c</sub>                     |
|-----|-------------------------------------------------------------------------------------|--------------------|-----------------|------------------|------------------|-----------------|-----------------|------------------------------------|
|     |                                                                                     |                    | 1/4             | 5/16             | 3/8              | 1/2             | 5/8             |                                    |
| TS2 | D                                                                                   | 1<br>1.0           | 0,02<br>0.00080 | 0,022<br>0.00085 | 0,022<br>0.00085 | 0,028<br>0.0011 | 0,032<br>0.0013 | 130 (110 — 140)<br>425 (370 — 450) |
| TS3 | D                                                                                   | 1<br>1.0           | 0,02<br>0.00080 | 0,022<br>0.00085 | 0,022<br>0.00085 | 0,028<br>0.0011 | 0,032<br>0.0013 | 90 (70 — 100)<br>295 (230 — 320)   |
| TP2 | D                                                                                   | 1<br>1.0           | 0,02<br>0.00080 | 0,022<br>0.00085 | 0,022<br>0.00085 | 0,028<br>0.0011 | 0,032<br>0.0013 | 90 (70 — 120)<br>295 (230 — 390)   |
| TP3 | D                                                                                   | 1<br>1.0           | 0,02<br>0.00080 | 0,022<br>0.00085 | 0,022<br>0.00085 | 0,028<br>0.0011 | 0,032<br>0.0013 | 65 (40 — 89)<br>215 (140 — 290)    |

Graphite

X-Heads

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

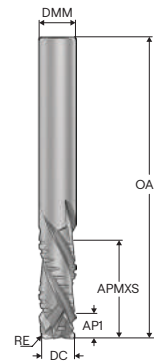
a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

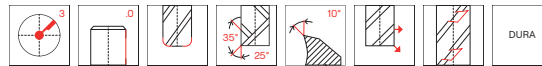
Minimaster

JC845

Composite – Compression – 3 Flutes – Cylindrical – Corner radius



—Tolerances:  
—DMM= h5  
—DC= -0,02/-0,04 mm  
—RE= ±0,01 mm



| Designation             | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | AP1 | OAL   | RE  | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|----------------|------|------|-------|-----|-------|-----|-------|-------------|----------------|
| JC845060D2R050.0Z3-DURA | 02843006    | 2            | D          | ■              | mm   | mm   | mm    | mm  | mm    | mm  |       |             |                |
| JC845080D2R050.0Z3-DURA | 02843007    | 2            | D          | ■              | 6,0  | 6,0  | 18,0  | 4,2 | 65,0  | 0,5 | 3     | Cylindrical | ■              |
| JC845100D2R050.0Z3-DURA | 02843008    | 2            | D          | ■              | 8,0  | 8,0  | 24,0  | 5,2 | 75,0  | 0,5 | 3     | Cylindrical | ■              |
| JC845120D2R050.0Z5-DURA | 02843009    | 2            | D          | ■              | 10,0 | 10,0 | 30,0  | 6,3 | 85,0  | 0,5 | 3     | Cylindrical | ■              |
| JC845120D2R050.0Z5-DURA | 02843009    | 2            | D          | ■              | 12,0 | 12,0 | 36,0  | 8,3 | 100,0 | 0,5 | 5     | Cylindrical | ■              |

■ Stocked standard.

### Cutting data – JC845 Side milling roughing

| SMG |  | $a_e/DC$ | $a_p/DC$ | $f_z$  |        |        |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|----------|--------|--------|--------|--------|-----------------|
|     |                                                                                   |          |          | 6      | 8      | 10     | 12     |                 |
| TS2 | E/A/D                                                                             | 0.376    | 1.5      | 0.038  | 0.050  | 0.060  | 0.075  | 185 (130 — 240) |
|     |                                                                                   | 0,376    | 1,5      | 0,0015 | 0,0020 | 0,0024 | 0,0030 | 610 (430 — 780) |
| TS3 | E/A/D                                                                             | 0.376    | 1.4      | 0.038  | 0.050  | 0.060  | 0.075  | 125 (87 — 160)  |
|     |                                                                                   | 0,376    | 1,4      | 0,0015 | 0,0020 | 0,0024 | 0,0030 | 410 (290 — 520) |
| TP2 | E/A/D                                                                             | 0.376    | 1.5      | 0.038  | 0.050  | 0.060  | 0.075  | 125 (87 — 180)  |
|     |                                                                                   | 0,376    | 1,5      | 0,0015 | 0,0020 | 0,0024 | 0,0030 | 410 (290 — 590) |
| TP3 | E/A/D                                                                             | 0.376    | 1.4      | 0.038  | 0.050  | 0.060  | 0.075  | 85 (62 — 110)   |
|     |                                                                                   | 0,376    | 1,4      | 0,0015 | 0,0020 | 0,0024 | 0,0030 | 280 (210 — 360) |

Universal

Steel and cast iron

### Cutting data – JC845 Slot milling

| SMG |  | $a_p/DC$ | $f_z$  |        |        |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|--------|--------|--------|--------|-----------------|
|     |                                                                                   |          | 6      | 8      | 10     | 12     |                 |
| TS2 | E/A/D                                                                             | 1.0      | 0.025  | 0.032  | 0.040  | 0.050  | 160 (110 — 210) |
|     |                                                                                   | 1,0      | 0,0010 | 0,0013 | 0,0016 | 0,0020 | 520 (370 — 680) |
| TS3 | E/A/D                                                                             | 0.75     | 0.025  | 0.032  | 0.040  | 0.050  | 105 (76 — 130)  |
|     |                                                                                   | 0,75     | 0,0010 | 0,0013 | 0,0016 | 0,0020 | 345 (250 — 420) |
| TP2 | E/A/D                                                                             | 1.0      | 0.025  | 0.032  | 0.040  | 0.050  | 105 (75 — 160)  |
|     |                                                                                   | 1,0      | 0,0010 | 0,0013 | 0,0016 | 0,0020 | 345 (250 — 520) |
| TP3 | E/A/D                                                                             | 0.75     | 0.025  | 0.032  | 0.040  | 0.050  | 75 (54 — 96)    |
|     |                                                                                   | 0,75     | 0,0010 | 0,0013 | 0,0016 | 0,0020 | 245 (180 — 310) |

Stainless steel and S-materials

Non ferrous

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Hard

Plastic and cfrp

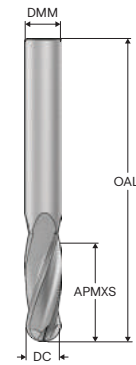
Graphite

X-Heads

Minimaster

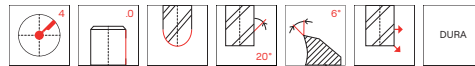
JC850

Composite – Ball nose – 4 Flutes – Cylindrical



D

—Tolerances:  
—DMM=h5  
—DC=-0,02/-0,04 mm  
—RE= ±0,02 mm



| Designation     | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank       | Stock standard |
|-----------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-------------|----------------|
| 850030Z4.0-DURA | 02719949    | 2            | D          | mm   | mm   | mm    | mm    | mm  |       |             |                |
| 850040Z4.0-DURA | 02719952    | 2            | D          | 3,0  | 3,0  | 9,0   | 50,0  | 1,5 | 4     | Cylindrical | ■              |
| 850060Z4.0-DURA | 02719953    | 2            | D          | 4,0  | 4,0  | 12,0  | 50,0  | 2,0 | 4     | Cylindrical | ■              |
| 850080Z4.0-DURA | 02719954    | 2            | D          | 6,0  | 6,0  | 18,0  | 65,0  | 3,0 | 4     | Cylindrical | ■              |
| 850100Z4.0-DURA | 02719955    | 2            | D          | 8,0  | 8,0  | 24,0  | 70,0  | 4,0 | 4     | Cylindrical | ■              |
| 850120Z4.0-DURA | 02719956    | 2            | D          | 10,0 | 10,0 | 30,0  | 85,0  | 5,0 | 4     | Cylindrical | ■              |
|                 |             |              |            | 12,0 | 12,0 | 36,0  | 100,0 | 6,0 | 4     | Cylindrical | ■              |

■ Stocked standard.

## Cutting data – JC850 Copy milling

| SMG |  | $a_e/DC$              | $a_p/DC$          | $f_z$                   |                        |                        |                        |                        |                        | $v_c$                                      |
|-----|-----------------------------------------------------------------------------------|-----------------------|-------------------|-------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|--------------------------------------------|
|     |                                                                                   |                       |                   | 3                       | 4                      | 6                      | 8                      | 10                     | 12                     |                                            |
| TS2 | E/A/D                                                                             | 0.200<br><i>0,200</i> | 2.0<br><i>2,0</i> | 0.030<br><i>0,0012</i>  | 0.040<br><i>0,0016</i> | 0.060<br><i>0,0024</i> | 0.080<br><i>0,0032</i> | 0.10<br><i>0,0040</i>  | 0.12<br><i>0,0048</i>  | 265 (220 — 320)<br><i>870 (730 — 1000)</i> |
| TS3 | E/A/D                                                                             | 0.200<br><i>0,200</i> | 2.0<br><i>2,0</i> | 0.024<br><i>0,00095</i> | 0.032<br><i>0,0013</i> | 0.048<br><i>0,0019</i> | 0.065<br><i>0,0026</i> | 0.080<br><i>0,0032</i> | 0.095<br><i>0,0038</i> | 160 (110 — 210)<br><i>520 (370 — 680)</i>  |
| TP2 | E/A/D                                                                             | 0.200<br><i>0,200</i> | 2.0<br><i>2,0</i> | 0.030<br><i>0,0012</i>  | 0.040<br><i>0,0016</i> | 0.060<br><i>0,0024</i> | 0.080<br><i>0,0032</i> | 0.10<br><i>0,0040</i>  | 0.12<br><i>0,0048</i>  | 215 (110 — 320)<br><i>710 (370 — 1000)</i> |
| TP3 | E/A/D                                                                             | 0.200<br><i>0,200</i> | 2.0<br><i>2,0</i> | 0.024<br><i>0,00095</i> | 0.032<br><i>0,0013</i> | 0.048<br><i>0,0019</i> | 0.065<br><i>0,0026</i> | 0.080<br><i>0,0032</i> | 0.095<br><i>0,0038</i> | 105 (54 — 150)<br><i>345 (180 — 490)</i>   |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
iron

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

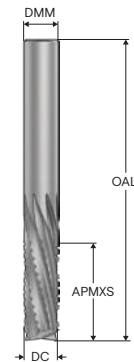
Graphite

X-Heads

Minimaster

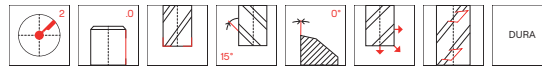
JC860

Honeycomb – Square – 5-9 Flutes – Cylindrical – Sharp



D

—Tolerances:  
—DMM=h5  
—DC= -0.02-0.08 mm  
—FCEDC=frontal teeth



| Designation     | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | L    | APMXS | OAL   | FCEDC | PCEDC | Shank       | Stock standard |
|-----------------|-------------|--------------|------------|----------------|------|------|------|-------|-------|-------|-------|-------------|----------------|
| 860060Z5.0-DURA | 02720211    | 2            | D          | ■              | 6,0  | 6,0  | 18,0 | 18,0  | 70,0  | 2     | 5     | Cylindrical | ■              |
| 860080Z6.0-DURA | 02720212    | 2            | D          | ■              | 8,0  | 8,0  | 24,0 | 24,0  | 80,0  | 2     | 6     | Cylindrical | ■              |
| 860100Z8.0-DURA | 02720216    | 2            | D          | ■              | 10,0 | 10,0 | 30,0 | 30,0  | 90,0  | 2     | 8     | Cylindrical | ■              |
| 860120Z9.0-DURA | 02720217    | 2            | D          | ■              | 12,0 | 12,0 | 36,0 | 36,0  | 110,0 | 2     | 9     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster



## Cutting data – JC860 Side milling roughing

| SMG |  | $a_e/DC$ | $a_p/DC$ | $f_z$   |        |        |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|----------|---------|--------|--------|--------|-----------------|
|     |                                                                                   |          |          | 6       | 8      | 10     | 12     |                 |
| TS2 | E/A/D                                                                             | 0.100    | 1.0      | 0.024   | 0.032  | 0.040  | 0.048  | 235 (200 — 270) |
|     |                                                                                   | 0,100    | 1,0      | 0,00095 | 0,0013 | 0,0016 | 0,0019 | 770 (660 — 880) |
| TS3 | E/A/D                                                                             | 0.100    | 1.0      | 0.024   | 0.032  | 0.040  | 0.048  | 160 (130 — 180) |
|     |                                                                                   | 0,100    | 1,0      | 0,00095 | 0,0013 | 0,0016 | 0,0019 | 520 (430 — 590) |
| TP2 | E/A/D                                                                             | 0.100    | 1.0      | 0.024   | 0.032  | 0.040  | 0.048  | 165 (130 — 200) |
|     |                                                                                   | 0,100    | 1,0      | 0,00095 | 0,0013 | 0,0016 | 0,0019 | 540 (430 — 650) |
| TP3 | E/A/D                                                                             | 0.100    | 1.0      | 0.024   | 0.032  | 0.040  | 0.048  | 65 (50 — 110)   |
|     |                                                                                   | 0,100    | 1,0      | 0,00095 | 0,0013 | 0,0016 | 0,0019 | 215 (170 — 360) |

## Cutting data – JC860 Slot milling

| SMG |  | $a_p/DC$ | $f_z$   |         |         |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|---------|---------|---------|--------|-----------------|
|     |                                                                                   |          | 6       | 8       | 10      | 12     |                 |
| TS2 | E/A/D                                                                             | 0.50     | 0.012   | 0.016   | 0.020   | 0.025  | 160 (140 — 180) |
|     |                                                                                   | 0,50     | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 520 (460 — 590) |
| TS3 | E/A/D                                                                             | 0.50     | 0.012   | 0.016   | 0.020   | 0.025  | 105 (85 — 120)  |
|     |                                                                                   | 0,50     | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 345 (280 — 390) |
| TP2 | E/A/D                                                                             | 0.50     | 0.012   | 0.016   | 0.020   | 0.025  | 110 (84 — 130)  |
|     |                                                                                   | 0,50     | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 360 (280 — 420) |
| TP3 | E/A/D                                                                             | 0.50     | 0.012   | 0.016   | 0.020   | 0.025  | 44 (34 — 78)    |
|     |                                                                                   | 0,50     | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 145 (120 — 250) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
iron

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

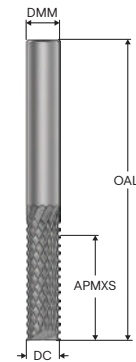
Graphite

X-Heads

Minimaster

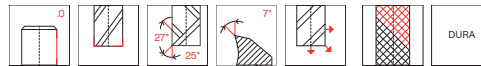
JC870

Composite – Router – Square – Cylindrical – Sharp



D

—Tolerances:  
—DMM=h5  
—DC=-0,02/-0,08 mm  
—Router (downcut)\*



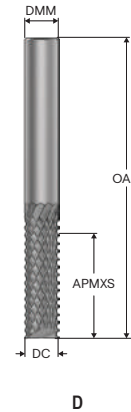
| Designation   | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | L    | APMXS | OAL   | FCEDC | PCEDC | Shank       | Stock standard |
|---------------|-------------|--------------|------------|----------------|------|------|------|-------|-------|-------|-------|-------------|----------------|
| 870030.0-DURA | 02720219    | 2            | D          | ■              | mm   | mm   | mm   | mm    | mm    |       |       |             |                |
| 870040.0-DURA | 02720226    | 2            | D          | ■              | 3,0  | 3,0  | 9,0  | 9,0   | 50,0  | 2     | 8     | Cylindrical | ■              |
| 870060.0-DURA | 02720228    | 2            | D          | ■              | 4,0  | 4,0  | 12,0 | 12,0  | 50,0  | 2     | 8     | Cylindrical | ■              |
| 870080.0-DURA | 02720229    | 2            | D          | ■              | 6,0  | 6,0  | 18,0 | 18,0  | 65,0  | 2     | 10    | Cylindrical | ■              |
| 870100.0-DURA | 02720231    | 2            | D          | ■              | 8,0  | 8,0  | 24,0 | 24,0  | 75,0  | 2     | 12    | Cylindrical | ■              |
| 870120.0-DURA | 02720232    | 2            | D          | ■              | 10,0 | 10,0 | 30,0 | 30,0  | 85,0  | 2     | 12    | Cylindrical | ■              |
|               |             |              |            |                | 12,0 | 12,0 | 36,0 | 36,0  | 100,0 | 2     | 14    | Cylindrical | ■              |

■ Stocked standard.

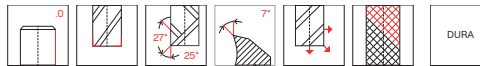
\*Downcut indicates flute geometries that are combined to create small down forces that assist with maintaining component clamping, particularly where vacuum clamping is employed.

JC870

Composite – Router – Square – Cylindrical – Sharp – Inch



- Tolerances:
- DMM= h5
- DC= -.0008/-.0030 Inch
- Router (downcut)\*



| Designation    | Item number | Length index | Tool shape | Chip splitters | DC            | DMM           | APMXS         | OAL           | FCEDC | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|----------------|---------------|---------------|---------------|---------------|-------|-------|-------------|----------------|
| 8700250.0-DURA | 02720784    | 2            | D          | ■              | inch<br>0.250 | inch<br>0.250 | inch<br>0.750 | inch<br>2.250 | 2     | 10    | Cylindrical | ■              |
| 8700375.0-DURA | 02720785    | 2            | D          | ■              | 0.375         | 0.375         | 1.250         | 3.500         | 2     | 12    | Cylindrical | ■              |

■ Stocked standard.

\*Downcut indicates flute geometries that are combined to create small down forces that assist with maintaining component clamping, particularly where vacuum clamping is employed.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

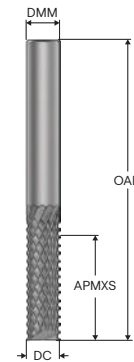
Graphite

X-Heads

Minimaster

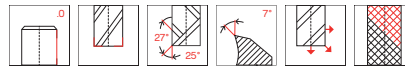
JC870

Composite – Router – Square – Cylindrical – Sharp



D

—Tolerances:  
—DMM=h5  
—DC=-0,02/-0,08 mm  
—Router (downcut)\*



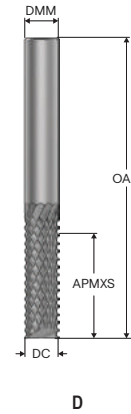
| Designation | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | L    | APMXS | OAL   | FCEDC | PCEDC | Shank       | Stock standard |
|-------------|-------------|--------------|------------|----------------|------|------|------|-------|-------|-------|-------|-------------|----------------|
| 870030.0    | 02742789    | 2            | D          | ■              | mm   | mm   | mm   | mm    | mm    |       |       |             |                |
| 870040.0    | 02742792    | 2            | D          | ■              | 3,0  | 3,0  | 9,0  | 9,0   | 50,0  | 2     | 8     | Cylindrical | ■              |
| 870050.0    | 02742793    | 2            | D          | ■              | 4,0  | 4,0  | 12,0 | 12,0  | 50,0  | 2     | 8     | Cylindrical | ■              |
| 870060.0    | 02742794    | 2            | D          | ■              | 5,0  | 5,0  | 15,0 | 15,0  | 50,0  | 2     | 10    | Cylindrical | ■              |
| 870080.0    | 02742795    | 2            | D          | ■              | 6,0  | 6,0  | 18,0 | 18,0  | 65,0  | 2     | 10    | Cylindrical | ■              |
| 870100.0    | 02742796    | 2            | D          | ■              | 8,0  | 8,0  | 24,0 | 24,0  | 75,0  | 2     | 12    | Cylindrical | ■              |
| 870120.0    | 02742797    | 2            | D          | ■              | 10,0 | 10,0 | 30,0 | 30,0  | 85,0  | 2     | 12    | Cylindrical | ■              |
|             |             |              |            | ■              | 12,0 | 12,0 | 36,0 | 36,0  | 100,0 | 2     | 14    | Cylindrical | ■              |

■ Stocked standard.

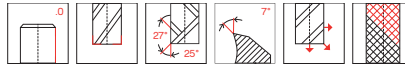
\*Downcut indicates flute geometries that are combined to create small down forces that assist with maintaining component clamping, particularly where vacuum clamping is employed.

JC870

Composite – Router – Square – Cylindrical – Sharp – Inch



- Tolerances:
- DMM= h5
- DC= -.0008/-.0030 Inch
- Router (downcut)\*



| Designation | Item number | Length index | Tool shape | Chip splitters | DC            | DMM           | APMXS         | OAL           | FCEDC | PCEDC | Shank       | Stock standard |
|-------------|-------------|--------------|------------|----------------|---------------|---------------|---------------|---------------|-------|-------|-------------|----------------|
| 8700250.0   | 02742798    | 2            | D          | ■              | inch<br>0.250 | inch<br>0.250 | inch<br>0.750 | inch<br>2.250 | 2     | 10    | Cylindrical | ■              |
| 8700500.0   | 02742800    | 2            | D          | ■              | 0.500         | 0.500         | 1.500         | 4.250         | 2     | 14    | Cylindrical | ■              |

■ Stocked standard.

\*Downcut indicates flute geometries that are combined to create small down forces that assist with maintaining component clamping, particularly where vacuum clamping is employed.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

### Cutting data – JC870 Side milling roughing

| SMG |  | $a_e/DC$ | $a_p/DC$ | $f_z$   |         |         |         |        |        |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|----------|---------|---------|---------|---------|--------|--------|--------|-----------------|
|     |                                                                                   |          |          | 3       | 4       | 5       | 6       | 8      | 10     | 12     |                 |
| TS2 | E/A/D                                                                             | 0.350    | 2.0      | 0.0095  | 0.013   | 0.016   | 0.019   | 0.025  | 0.032  | 0.038  | 175 (150 — 200) |
|     |                                                                                   | 0,350    | 2,0      | 0,00038 | 0,00050 | 0,00065 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 570 (500 — 650) |
| TS3 | E/A/D                                                                             | 0.350    | 2.0      | 0.0095  | 0.013   | 0.016   | 0.019   | 0.025  | 0.032  | 0.038  | 115 (94 — 130)  |
|     |                                                                                   | 0,350    | 2,0      | 0,00038 | 0,00050 | 0,00065 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 375 (310 — 420) |
| TP2 | E/A/D                                                                             | 0.350    | 2.0      | 0.0095  | 0.013   | 0.016   | 0.019   | 0.025  | 0.032  | 0.038  | 115 (88 — 140)  |
|     |                                                                                   | 0,350    | 2,0      | 0,00038 | 0,00050 | 0,00065 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 375 (290 — 450) |
| TP3 | E/A/D                                                                             | 0.350    | 2.0      | 0.0095  | 0.013   | 0.016   | 0.019   | 0.025  | 0.032  | 0.038  | 46 (36 — 81)    |
|     |                                                                                   | 0,350    | 2,0      | 0,00038 | 0,00050 | 0,00065 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 150 (120 — 260) |

### Cutting data – JC870 Slot milling

| SMG |  | $a_p/DC$ | $f_z$   |         |         |         |         |         |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|---------|---------|---------|---------|---------|---------|--------|-----------------|
|     |                                                                                   |          | 3       | 4       | 5       | 6       | 8       | 10      | 12     |                 |
| TS2 | E/A/D                                                                             | 1.0      | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 145 (130 — 170) |
|     |                                                                                   | 1,0      | 0,00024 | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 475 (430 — 550) |
| TS3 | E/A/D                                                                             | 1.0      | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 100 (79 — 110)  |
|     |                                                                                   | 1,0      | 0,00024 | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 330 (260 — 360) |
| TP2 | E/A/D                                                                             | 1.0      | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 100 (74 — 120)  |
|     |                                                                                   | 1,0      | 0,00024 | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 330 (250 — 390) |
| TP3 | E/A/D                                                                             | 1.0      | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 39 (30 — 68)    |
|     |                                                                                   | 1,0      | 0,00024 | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 130 (99 — 220)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

#### Cutting data – JC870 Side milling roughing – Inch

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$            |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|------------|------------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                |            | 1/4              | 3/8             | 1/2             |                                    |
| TS2 | E/A/D                                                                             | 0.350<br>0,350 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.038<br>0,0015 | 175 (150 — 200)<br>570 (500 — 650) |
| TS3 | E/A/D                                                                             | 0.350<br>0,350 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.038<br>0,0015 | 115 (94 — 130)<br>375 (310 — 420)  |
| TP2 | E/A/D                                                                             | 0.350<br>0,350 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.038<br>0,0015 | 115 (88 — 140)<br>375 (290 — 450)  |
| TP3 | E/A/D                                                                             | 0.350<br>0,350 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.038<br>0,0015 | 46 (36 — 81)<br>150 (120 — 260)    |

#### Cutting data – JC870 Slot milling – Inch

| SMG |  | $a_p/DC$   | $f_z$            |                  |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|------------|------------------|------------------|-----------------|------------------------------------|
|     |                                                                                   |            | 1/4              | 3/8              | 1/2             |                                    |
| TS2 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 145 (130 — 170)<br>475 (430 — 550) |
| TS3 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 100 (79 — 110)<br>330 (260 — 360)  |
| TP2 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 100 (74 — 120)<br>330 (250 — 390)  |
| TP3 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 39 (30 — 68)<br>130 (99 — 220)     |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
iron

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

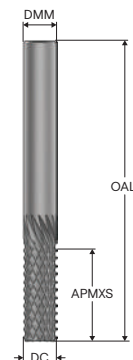
Graphite

X-Heads

Minimaster

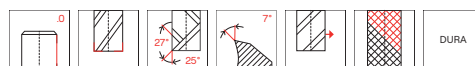
JC871

Composite – Router – Square – Cylindrical – Sharp



D

—Tolerances:  
—DMM= h5  
—DC= -0,02/-0,08 mm  
—Router (downcut)\*



| Designation   | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|---------------|-------------|--------------|------------|----------------|------|------|-------|-------|-------|-------------|----------------|
| 871030.0-DURA | 02720249    | 2            | D          | ■              | mm   | mm   | mm    | mm    |       |             |                |
| 871040.0-DURA | 02720250    | 2            | D          | ■              | 3,0  | 3,0  | 9,0   | 50,0  | 8     | Cylindrical | ■              |
| 871060.0-DURA | 02720252    | 2            | D          | ■              | 4,0  | 4,0  | 12,0  | 50,0  | 8     | Cylindrical | ■              |
| 871080.0-DURA | 02720253    | 2            | D          | ■              | 6,0  | 6,0  | 18,0  | 65,0  | 10    | Cylindrical | ■              |
| 871100.0-DURA | 02720254    | 2            | D          | ■              | 8,0  | 8,0  | 24,0  | 75,0  | 12    | Cylindrical | ■              |
| 871120.0-DURA | 02720257    | 2            | D          | ■              | 10,0 | 10,0 | 30,0  | 85,0  | 12    | Cylindrical | ■              |
|               |             |              |            | ■              | 12,0 | 12,0 | 36,0  | 100,0 | 14    | Cylindrical | ■              |

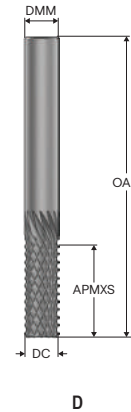
■ Stocked standard.

\*Downcut indicates flute geometries that are combined to create small down forces that assist with maintaining component clamping, particularly where vacuum clamping is employed.

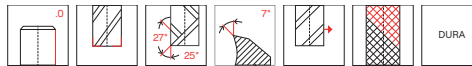


JC871

Composite – Router – Square – Cylindrical – Sharp – Inch



- Tolerances:
- DMM= h5
- DC= -.0008/-.0030 Inch
- Router (downcut)\*



| Designation    | Item number | Length index | Tool shape | Chip splitters | DC            | DMM           | APMXS         | OAL           | PCEDC | Shank       | Stock standard |
|----------------|-------------|--------------|------------|----------------|---------------|---------------|---------------|---------------|-------|-------------|----------------|
| 8710250.0-DURA | 02720788    | 2            | D          | ■              | inch<br>0.250 | inch<br>0.250 | inch<br>0.750 | inch<br>2.250 | 10    | Cylindrical | ■              |
| 8710375.0-DURA | 02720789    | 2            | D          | ■              | 0.375         | 0.375         | 1.250         | 3.500         | 12    | Cylindrical | ■              |
| 8710500.0-DURA | 02720790    | 2            | D          | ■              | 0.500         | 0.500         | 1.500         | 4.250         | 14    | Cylindrical | ■              |

■ Stocked standard.

\*Downcut indicates flute geometries that are combined to create small down forces that assist with maintaining component clamping, particularly where vacuum clamping is employed.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

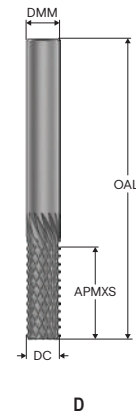
Graphite

X-Heads

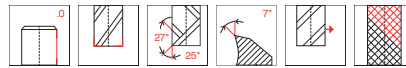
Minimaster

JC871

Composite – Router – Square – Cylindrical – Sharp



—Tolerances:  
—DMM= h5  
—DC= -0,02/-0,08 mm  
—Router (downcut)\*



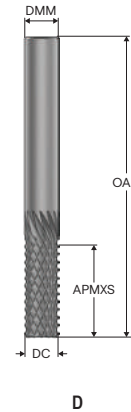
| Designation | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | PCEDC | Shank       | Stock standard |
|-------------|-------------|--------------|------------|----------------|------|------|-------|-------|-------|-------------|----------------|
| 871030.0    | 02742801    | 2            | D          | ■              | mm   | mm   | mm    | mm    |       |             |                |
| 871040.0    | 02742803    | 2            | D          | ■              | 3,0  | 3,0  | 9,0   | 50,0  | 8     | Cylindrical | ■              |
| 871060.0    | 02742806    | 2            | D          | ■              | 4,0  | 4,0  | 12,0  | 50,0  | 8     | Cylindrical | ■              |
| 871080.0    | 02742807    | 2            | D          | ■              | 6,0  | 6,0  | 18,0  | 65,0  | 10    | Cylindrical | ■              |
| 871100.0    | 02742808    | 2            | D          | ■              | 8,0  | 8,0  | 24,0  | 75,0  | 12    | Cylindrical | ■              |
| 871120.0    | 02742809    | 2            | D          | ■              | 10,0 | 10,0 | 30,0  | 85,0  | 12    | Cylindrical | ■              |
|             |             |              |            |                | 12,0 | 12,0 | 36,0  | 100,0 | 14    | Cylindrical | ■              |

■ Stocked standard.

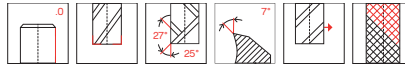
\*Downcut indicates flute geometries that are combined to create small down forces that assist with maintaining component clamping, particularly where vacuum clamping is employed.

JC871

Composite – Router – Square – Cylindrical – Sharp – Inch



—Tolerances:  
—DMM=h5  
—DC= -.0008/-.0030 Inch  
—Router (downcut)\*



| Designation | Item number | Length index | Tool shape | Chip splitters | DC            | DMM           | APMXS         | OAL           | PCEDC | Shank       | Stock standard |
|-------------|-------------|--------------|------------|----------------|---------------|---------------|---------------|---------------|-------|-------------|----------------|
| 8710500.0   | 02742814    | 2            | D          | ■              | inch<br>0.500 | inch<br>0.500 | inch<br>1.500 | inch<br>4.250 | 14    | Cylindrical | ■              |

■ Stocked standard.

\*Downcut indicates flute geometries that are combined to create small down forces that assist with maintaining component clamping, particularly where vacuum clamping is employed.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

### Cutting data – JC871 Side milling roughing

| SMG |  | $a_e/DC$ | $a_p/DC$ | $f_z$   |         |         |         |        |        |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|----------|---------|---------|---------|---------|--------|--------|--------|-----------------|
|     |                                                                                   |          |          | 3       | 4       | 5       | 6       | 8      | 10     | 12     |                 |
| TS2 | E/A/D                                                                             | 0.350    | 2.0      | 0.0095  | 0.013   | 0.016   | 0.019   | 0.025  | 0.032  | 0.038  | 175 (150 — 200) |
|     |                                                                                   | 0,350    | 2,0      | 0,00038 | 0,00050 | 0,00065 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 570 (500 — 650) |
| TS3 | E/A/D                                                                             | 0.350    | 2.0      | 0.0095  | 0.013   | 0.016   | 0.019   | 0.025  | 0.032  | 0.038  | 115 (94 — 130)  |
|     |                                                                                   | 0,350    | 2,0      | 0,00038 | 0,00050 | 0,00065 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 375 (310 — 420) |
| TP2 | E/A/D                                                                             | 0.350    | 2.0      | 0.0095  | 0.013   | 0.016   | 0.019   | 0.025  | 0.032  | 0.038  | 115 (88 — 140)  |
|     |                                                                                   | 0,350    | 2,0      | 0,00038 | 0,00050 | 0,00065 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 375 (290 — 450) |
| TP3 | E/A/D                                                                             | 0.350    | 2.0      | 0.0095  | 0.013   | 0.016   | 0.019   | 0.025  | 0.032  | 0.038  | 46 (36 — 81)    |
|     |                                                                                   | 0,350    | 2,0      | 0,00038 | 0,00050 | 0,00065 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 150 (120 — 260) |

### Cutting data – JC871 Slot milling

| SMG |  | $a_p/DC$ | $f_z$   |         |         |         |         |         |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|---------|---------|---------|---------|---------|---------|--------|-----------------|
|     |                                                                                   |          | 3       | 4       | 5       | 6       | 8       | 10      | 12     |                 |
| TS2 | E/A/D                                                                             | 1.0      | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 155 (140 — 180) |
|     |                                                                                   | 1,0      | 0,00024 | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 510 (460 — 590) |
| TS3 | E/A/D                                                                             | 1.0      | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 105 (84 — 120)  |
|     |                                                                                   | 1,0      | 0,00024 | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 345 (280 — 390) |
| TP2 | E/A/D                                                                             | 1.0      | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 105 (79 — 130)  |
|     |                                                                                   | 1,0      | 0,00024 | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 345 (260 — 420) |
| TP3 | E/A/D                                                                             | 1.0      | 0.0060  | 0.0080  | 0.010   | 0.012   | 0.016   | 0.020   | 0.025  | 40 (31 — 70)    |
|     |                                                                                   | 1,0      | 0,00024 | 0,00032 | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 130 (110 — 220) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

#### Cutting data – JC871 Side milling roughing – Inch

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$            |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|------------|------------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                |            | 1/4              | 3/8             | 1/2             |                                    |
| TS2 | E/A/D                                                                             | 0.350<br>0,350 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.038<br>0,0015 | 175 (150 — 200)<br>570 (500 — 650) |
| TS3 | E/A/D                                                                             | 0.350<br>0,350 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.038<br>0,0015 | 115 (94 — 130)<br>375 (310 — 420)  |
| TP2 | E/A/D                                                                             | 0.350<br>0,350 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.038<br>0,0015 | 115 (88 — 140)<br>375 (290 — 450)  |
| TP3 | E/A/D                                                                             | 0.350<br>0,350 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.038<br>0,0015 | 46 (36 — 81)<br>150 (120 — 260)    |

Universal  
iron

Steel and cast  
iron

#### Cutting data – JC871 Slot milling – Inch

| SMG |  | $a_p/DC$   | $f_z$            |                  |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|------------|------------------|------------------|-----------------|------------------------------------|
|     |                                                                                   |            | 1/4              | 3/8              | 1/2             |                                    |
| TS2 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 145 (130 — 170)<br>475 (430 — 550) |
| TS3 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 100 (79 — 110)<br>330 (260 — 360)  |
| TP2 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 100 (74 — 120)<br>330 (250 — 390)  |
| TP3 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 39 (30 — 68)<br>130 (99 — 220)     |

Stainless steel  
and S-materials

Non ferrous

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Hard

Plastic and cfrp

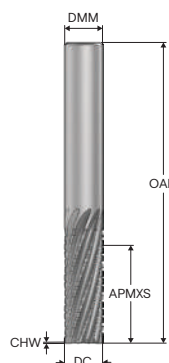
Graphite

X-Heads

Minimaster

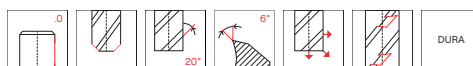
JC875

Composite – Square – 5-10 Flutes – Cylindrical – Chamfer



D

—Tolerances:  
—DMM=h5  
—DC=-0,02/-0,08 mm

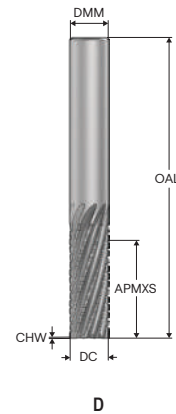


| Designation       | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL  | CHW  | PCEDC | Shank       | Stock standard |
|-------------------|-------------|--------------|------------|----------------|------|------|-------|------|------|-------|-------------|----------------|
| JC875030D2.0-DURA | 02968155    | 2            | D          | ■              | mm   | mm   | mm    | mm   | mm   |       |             |                |
| JC875050D2.0-DURA | 02968157    | 2            | D          | ■              | 3,0  | 3,0  | 9,0   | 50,0 | 0,05 | 5     | Cylindrical | ■              |
| JC875060D2.0-DURA | 02968158    | 2            | D          | ■              | 5,0  | 5,0  | 15,0  | 50,0 | 0,05 | 6     | Cylindrical | ■              |
| JC875080D2.0-DURA | 02968159    | 2            | D          | ■              | 6,0  | 6,0  | 18,0  | 65,0 | 0,06 | 6     | Cylindrical | ■              |
| JC875100D2.0-DURA | 02968160    | 2            | D          | ■              | 8,0  | 8,0  | 24,0  | 70,0 | 0,08 | 10    | Cylindrical | ■              |
| JC875100D2.0-DURA | 02968160    | 2            | D          | ■              | 10,0 | 10,0 | 30,0  | 80,0 | 0,1  | 10    | Cylindrical | ■              |

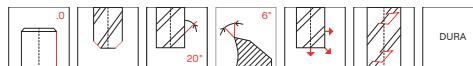
■ Stocked standard.

JC875

Composite – Square – 6-10 Flutes – Cylindrical – Chamfer – Inch



—Tolerances:  
—DMM=h5  
—DC= -.0008/-.0030 Inch



| Designation        | Item number | Length index | Tool shape | Chip splitters | DC            | DMM           | APMXS         | OAL           | CHW           | PCEDC | Shank       | Stock standard |
|--------------------|-------------|--------------|------------|----------------|---------------|---------------|---------------|---------------|---------------|-------|-------------|----------------|
| JC875.250D2.0-DURA | 02968162    | 2            | D          | ■              | inch<br>0.250 | inch<br>0.250 | inch<br>0.750 | inch<br>3.000 | inch<br>0.002 | 6     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

### Cutting data – JC875 Side milling roughing

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |        |        | v <sub>c</sub>  |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|----------------|---------|---------|--------|--------|-----------------|
|     |                                                                                   |                    |                    | 3              | 5       | 6       | 8      | 10     |                 |
| TS2 | E/A/D                                                                             | 0.350              | 2.0                | 0.0095         | 0.016   | 0.019   | 0.025  | 0.032  | 190 (160 — 220) |
|     |                                                                                   | 0,350              | 2,0                | 0,00038        | 0,00065 | 0,00075 | 0,0010 | 0,0013 | 620 (530 — 720) |
| TS3 | E/A/D                                                                             | 0.350              | 2.0                | 0.0095         | 0.016   | 0.019   | 0.025  | 0.032  | 130 (110 — 150) |
|     |                                                                                   | 0,350              | 2,0                | 0,00038        | 0,00065 | 0,00075 | 0,0010 | 0,0013 | 425 (370 — 490) |
| TP2 | E/A/D                                                                             | 0.350              | 2.0                | 0.0095         | 0.016   | 0.019   | 0.025  | 0.032  | 130 (96 — 150)  |
|     |                                                                                   | 0,350              | 2,0                | 0,00038        | 0,00065 | 0,00075 | 0,0010 | 0,0013 | 425 (320 — 490) |
| TP3 | E/A/D                                                                             | 0.350              | 2.0                | 0.0095         | 0.016   | 0.019   | 0.025  | 0.032  | 50 (39 — 89)    |
|     |                                                                                   | 0,350              | 2,0                | 0,00038        | 0,00065 | 0,00075 | 0,0010 | 0,0013 | 165 (130 — 290) |

### Cutting data – JC875 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub> |         |         |         |         | v <sub>c</sub>  |
|-----|-----------------------------------------------------------------------------------|--------------------|----------------|---------|---------|---------|---------|-----------------|
|     |                                                                                   |                    | 3              | 5       | 6       | 8       | 10      |                 |
| TS2 | E/A/D                                                                             | 1.0                | 0.0060         | 0.010   | 0.012   | 0.016   | 0.020   | 160 (140 — 180) |
|     |                                                                                   | 1,0                | 0,00024        | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 520 (460 — 590) |
| TS3 | E/A/D                                                                             | 1.0                | 0.0060         | 0.010   | 0.012   | 0.016   | 0.020   | 105 (86 — 120)  |
|     |                                                                                   | 1,0                | 0,00024        | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 345 (290 — 390) |
| TP2 | E/A/D                                                                             | 1.0                | 0.0060         | 0.010   | 0.012   | 0.016   | 0.020   | 105 (81 — 130)  |
|     |                                                                                   | 1,0                | 0,00024        | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 345 (270 — 420) |
| TP3 | E/A/D                                                                             | 1.0                | 0.0060         | 0.010   | 0.012   | 0.016   | 0.020   | 42 (33 — 74)    |
|     |                                                                                   | 1,0                | 0,00024        | 0,00040 | 0,00048 | 0,00065 | 0,00080 | 140 (110 — 240) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values



#### Cutting data – JC875 Side milling – Inch

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$            |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|------------|------------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                |            | 1/4              | 3/8             | 1/2             |                                    |
| TS2 | E/A/D                                                                             | 0.350<br>0,350 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.038<br>0,0015 | 190 (160 — 220)<br>620 (530 — 720) |
| TS3 | E/A/D                                                                             | 0.350<br>0,350 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.038<br>0,0015 | 130 (110 — 150)<br>425 (370 — 490) |
| TP2 | E/A/D                                                                             | 0.350<br>0,350 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.038<br>0,0015 | 130 (96 — 150)<br>425 (320 — 490)  |
| TP3 | E/A/D                                                                             | 0.350<br>0,350 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.038<br>0,0015 | 50 (39 — 89)<br>165 (130 — 290)    |

#### Cutting data – JC875 Slot milling – Inch

| SMG |  | $a_p/DC$   | $f_z$            |                  |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|------------|------------------|------------------|-----------------|------------------------------------|
|     |                                                                                   |            | 1/4              | 3/8              | 1/2             |                                    |
| TS2 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 160 (140 — 180)<br>520 (460 — 590) |
| TS3 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 105 (86 — 120)<br>345 (290 — 390)  |
| TP2 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 105 (81 — 130)<br>345 (270 — 420)  |
| TP3 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 42 (33 — 74)<br>140 (110 — 240)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm/tooth (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
iron

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

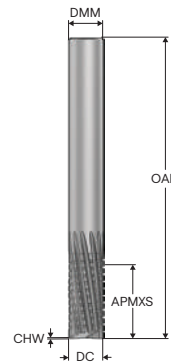
Graphite

X-Heads

Minimaster

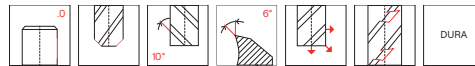
JC876

Composite – Square – 6-14 Flutes – Cylindrical – Chamfer



D

—Tolerances:  
—DMM=h5  
—DC=-0,02 -0,08 mm  
—Left hand helix



| Designation           | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | L    | APMXS | OAL  | CHW   | FCEDC | PCEDC | Shank       | Stock standard |
|-----------------------|-------------|--------------|------------|----------------|------|------|------|-------|------|-------|-------|-------|-------------|----------------|
| JC876030D2C.0Z6-DURA  | 03135004    | 2            | D          | ■              | mm   | mm   | mm   | mm    | mm   | mm    |       |       |             |                |
| JC876040D2C.0Z6-DURA  | 03135005    | 2            | D          | ■              | 3,0  | 3,0  | 7,5  | 7,5   | 50,0 | 0,035 | 2     | 6     | Cylindrical | ■              |
| JC876060D2C.0Z8-DURA  | 03135006    | 2            | D          | ■              | 4,0  | 4,0  | 10,0 | 10,0  | 54,0 | 0,045 | 2     | 6     | Cylindrical | ■              |
| JC876060D2C.0Z10-DURA | 03135007    | 2            | D          | ■              | 6,0  | 6,0  | 15,0 | 15,0  | 62,0 | 0,075 | 2     | 8     | Cylindrical | ■              |
| JC876080D2C.0Z10-DURA | 03135009    | 2            | D          | ■              | 6,0  | 6,0  | 15,0 | 15,0  | 62,0 | 0,075 | 2     | 10    | Cylindrical | ■              |
| JC876100D2C.0Z12-DURA | 03135011    | 2            | D          | ■              | 8,0  | 8,0  | 20,0 | 20,0  | 70,0 | 0,1   | 2     | 10    | Cylindrical | ■              |
| JC876120D2C.0Z14-DURA | 03135012    | 2            | D          | ■              | 10,0 | 10,0 | 25,0 | 25,0  | 82,0 | 0,125 | 2     | 12    | Cylindrical | ■              |
| JC876120D2C.0Z14-DURA | 03135012    | 2            | D          | ■              | 12,0 | 12,0 | 30,0 | 30,0  | 95,0 | 0,15  | 2     | 14    | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

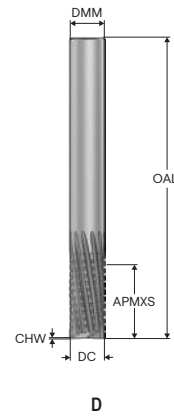
Graphite

X-Heads

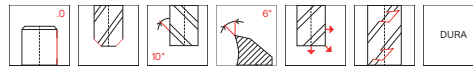
Minimaster

JC876

Composite – Square – 8-14 Flutes – Cylindrical – Chamfer – Inch



- Tolerances:
- DMM=h5
- DC= -.0008/-.0030 Inch
- Left hand helix



| Designation            | Item number | Length index | Tool shape | Chip splitters | DC            | DMM           | APMXS         | OAL           | CHW           | FCEDC | PCEDC | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|----------------|---------------|---------------|---------------|---------------|---------------|-------|-------|-------------|----------------|
| JC876.250D2C.0Z8-DURA  | 03135125    | 2            | D          | ■              | inch<br>0.250 | inch<br>0.250 | inch<br>0.625 | inch<br>2.500 | inch<br>0.003 | 2     | 8     | Cylindrical | ■              |
| JC876.375D2C.0Z12-DURA | 03135127    | 2            | D          | ■              | inch<br>0.375 | inch<br>0.375 | inch<br>1.000 | inch<br>3.000 | inch<br>0.005 | 2     | 12    | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

### Cutting data – JC876 Side milling roughing

| SMG |  | $a_e/DC$ | $a_p/DC$ | $f_z$   |         |         |        |        |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|----------|---------|---------|---------|--------|--------|--------|-----------------|
|     |                                                                                   |          |          | 3       | 4       | 6       | 8      | 10     | 12     |                 |
| TS2 | E/A/D                                                                             | 0.334    | 1.7      | 0.0095  | 0.013   | 0.019   | 0.026  | 0.032  | 0.038  | 220 (190 — 250) |
|     |                                                                                   | 0,334    | 1,7      | 0,00038 | 0,00050 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 720 (630 — 820) |
| TS3 | E/A/D                                                                             | 0.334    | 1.7      | 0.0095  | 0.013   | 0.019   | 0.026  | 0.032  | 0.038  | 145 (120 — 170) |
|     |                                                                                   | 0,334    | 1,7      | 0,00038 | 0,00050 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 475 (400 — 550) |
| TP2 | E/A/D                                                                             | 0.334    | 1.7      | 0.0095  | 0.013   | 0.019   | 0.026  | 0.032  | 0.038  | 145 (110 — 180) |
|     |                                                                                   | 0,334    | 1,7      | 0,00038 | 0,00050 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 475 (370 — 590) |
| TP3 | E/A/D                                                                             | 0.334    | 1.7      | 0.0095  | 0.013   | 0.019   | 0.026  | 0.032  | 0.038  | 75 (44 — 100)   |
|     |                                                                                   | 0,334    | 1,7      | 0,00038 | 0,00050 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 245 (150 — 320) |

### Cutting data – JC876 Slot milling

| SMG |  | $a_p/DC$ | $f_z$   |         |         |         |         |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|---------|---------|---------|---------|---------|--------|-----------------|
|     |                                                                                   |          | 3       | 4       | 6       | 8       | 10      | 12     |                 |
| TS2 | E/A/D                                                                             | 1.0      | 0.0060  | 0.0080  | 0.012   | 0.016   | 0.020   | 0.025  | 175 (150 — 200) |
|     |                                                                                   | 1,0      | 0,00024 | 0,00032 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 570 (500 — 650) |
| TS3 | E/A/D                                                                             | 1.0      | 0.0060  | 0.0080  | 0.012   | 0.016   | 0.020   | 0.025  | 115 (94 — 140)  |
|     |                                                                                   | 1,0      | 0,00024 | 0,00032 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 375 (310 — 450) |
| TP2 | E/A/D                                                                             | 1.0      | 0.0060  | 0.0080  | 0.012   | 0.016   | 0.020   | 0.025  | 115 (88 — 140)  |
|     |                                                                                   | 1,0      | 0,00024 | 0,00032 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 375 (290 — 450) |
| TP3 | E/A/D                                                                             | 1.0      | 0.0060  | 0.0080  | 0.012   | 0.016   | 0.020   | 0.025  | 60 (36 — 81)    |
|     |                                                                                   | 1,0      | 0,00024 | 0,00032 | 0,00048 | 0,00065 | 0,00080 | 0,0010 | 195 (120 — 260) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

## Cutting data – JC876 Side milling roughing – Inch

| SMG |  | $a_e$ /DC      | $a_p$ /DC  | $f_z$            |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|------------|------------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                |            | 1/4              | 3/8             | 1/2             |                                    |
| TS2 | E/A/D                                                                             | 0.334<br>0.334 | 1.7<br>1.7 | 0.020<br>0.00080 | 0.030<br>0.0012 | 0.040<br>0.0016 | 220 (190 — 250)<br>720 (630 — 820) |
| TS3 | E/A/D                                                                             | 0.334<br>0.334 | 1.7<br>1.7 | 0.020<br>0.00080 | 0.030<br>0.0012 | 0.040<br>0.0016 | 145 (120 — 170)<br>475 (400 — 550) |
| TP2 | E/A/D                                                                             | 0.334<br>0.334 | 1.7<br>1.7 | 0.020<br>0.00080 | 0.030<br>0.0012 | 0.040<br>0.0016 | 145 (110 — 180)<br>475 (370 — 590) |
| TP3 | E/A/D                                                                             | 0.334<br>0.334 | 1.7<br>1.7 | 0.020<br>0.00080 | 0.030<br>0.0012 | 0.040<br>0.0016 | 75 (44 — 100)<br>245 (150 — 320)   |

Universal  
iron

Steel and cast  
iron

## Cutting data – JC876 Slot milling – Inch

| SMG |  | $a_p$ /DC  | $f_z$            |                  |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|------------|------------------|------------------|-----------------|------------------------------------|
|     |                                                                                   |            | 1/4              | 3/8              | 1/2             |                                    |
| TS2 | E/A/D                                                                             | 1.0<br>1.0 | 0.013<br>0.00050 | 0.019<br>0.00075 | 0.026<br>0.0010 | 175 (150 — 200)<br>570 (500 — 650) |
| TS3 | E/A/D                                                                             | 1.0<br>1.0 | 0.013<br>0.00050 | 0.019<br>0.00075 | 0.026<br>0.0010 | 115 (94 — 140)<br>375 (310 — 450)  |
| TP2 | E/A/D                                                                             | 1.0<br>1.0 | 0.013<br>0.00050 | 0.019<br>0.00075 | 0.026<br>0.0010 | 115 (88 — 140)<br>375 (290 — 450)  |
| TP3 | E/A/D                                                                             | 1.0<br>1.0 | 0.013<br>0.00050 | 0.019<br>0.00075 | 0.026<br>0.0010 | 60 (36 — 81)<br>195 (120 — 260)    |

Stainless steel  
and S-materials

Non ferrous

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm/tooth (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Hard

Plastic and cfrp

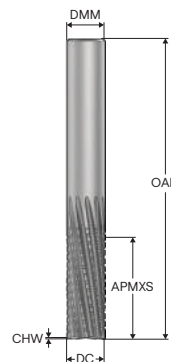
Graphite

X-Heads

Minimaster

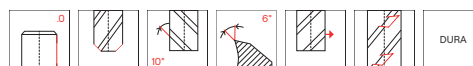
JC877

Composite – Square – 6-14 Flutes – Cylindrical – Chamfer



D

—Tolerances:  
—DMM=h5  
—DC=-0,02, -0,08 mm  
—Left hand helix



| Designation           | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | L    | APMXS | OAL  | CHW   | FCEDC | PCEDC | Shank       | Stock standard |
|-----------------------|-------------|--------------|------------|----------------|------|------|------|-------|------|-------|-------|-------|-------------|----------------|
| JC877030D2C.0Z6-DURA  | 03135013    | 2            | D          | ■              | mm   | mm   | mm   | mm    | mm   | mm    |       |       |             |                |
| JC877040D2C.0Z6-DURA  | 03135014    | 2            | D          | ■              | 3,0  | 3,0  | 9,0  | 9,0   | 50,0 | 0,035 | 3     | 6     | Cylindrical | ■              |
| JC877060D2C.0Z8-DURA  | 03135015    | 2            | D          | ■              | 4,0  | 4,0  | 12,0 | 12,0  | 54,0 | 0,045 | 3     | 6     | Cylindrical | ■              |
| JC877060D2C.0Z10-DURA | 03135016    | 2            | D          | ■              | 6,0  | 6,0  | 18,0 | 18,0  | 62,0 | 0,075 | 4     | 8     | Cylindrical | ■              |
| JC877080D2C.0Z10-DURA | 03135018    | 2            | D          | ■              | 6,0  | 6,0  | 18,0 | 18,0  | 62,0 | 0,075 | 5     | 10    | Cylindrical | ■              |
| JC877100D2C.0Z12-DURA | 03135020    | 2            | D          | ■              | 8,0  | 8,0  | 24,0 | 24,0  | 70,0 | 0,1   | 5     | 10    | Cylindrical | ■              |
| JC877120D2C.0Z14-DURA | 03135021    | 2            | D          | ■              | 10,0 | 10,0 | 30,0 | 30,0  | 82,0 | 0,125 | 6     | 12    | Cylindrical | ■              |
| JC877120D2C.0Z14-DURA | 03135021    | 2            | D          | ■              | 12,0 | 12,0 | 36,0 | 36,0  | 95,0 | 0,15  | 7     | 14    | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

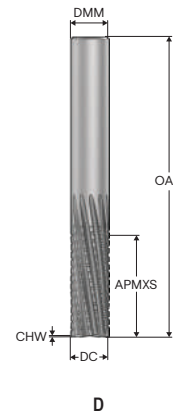
Graphite

X-Heads

Minimaster

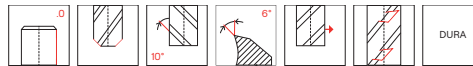
JC877

Composite – Square – 8-14 Flutes – Cylindrical – Chamfer – Inch



D

- Tolerances:
- DMM=h5
- DC= -.0008/-.0030 Inch
- Left hand helix



| Designation           | Item number | Length index | Tool shape | Chip splitters | DC            | DMM           | APMXS         | OAL           | CHW           | FCEDC | PCEDC | Shank       | Stock standard |
|-----------------------|-------------|--------------|------------|----------------|---------------|---------------|---------------|---------------|---------------|-------|-------|-------------|----------------|
| JC877.250D2C.0Z8-DURA | 03135129    | 2            | D          | ■              | inch<br>0.250 | inch<br>0.250 | inch<br>0.750 | inch<br>2.500 | inch<br>0.003 | 4     | 8     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

### Cutting data – JC877 Side milling roughing

| SMG |  | $a_e/DC$ | $a_p/DC$ | $f_z$   |         |         |        |        |        | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|----------|---------|---------|---------|--------|--------|--------|-----------------|
|     |                                                                                   |          |          | 3       | 4       | 6       | 8      | 10     | 12     |                 |
| TS2 | E/A/D                                                                             | 0.334    | 2.0      | 0.0095  | 0.013   | 0.019   | 0.026  | 0.032  | 0.038  | 195 (170 — 220) |
|     |                                                                                   | 0,334    | 2,0      | 0,00038 | 0,00050 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 640 (560 — 720) |
| TS3 | E/A/D                                                                             | 0.334    | 2.0      | 0.0095  | 0.013   | 0.019   | 0.026  | 0.032  | 0.038  | 130 (110 — 150) |
|     |                                                                                   | 0,334    | 2,0      | 0,00038 | 0,00050 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 425 (370 — 490) |
| TP2 | E/A/D                                                                             | 0.334    | 2.0      | 0.0095  | 0.013   | 0.019   | 0.026  | 0.032  | 0.038  | 130 (98 — 160)  |
|     |                                                                                   | 0,334    | 2,0      | 0,00038 | 0,00050 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 425 (330 — 520) |
| TP3 | E/A/D                                                                             | 0.334    | 2.0      | 0.0095  | 0.013   | 0.019   | 0.026  | 0.032  | 0.038  | 65 (40 — 91)    |
|     |                                                                                   | 0,334    | 2,0      | 0,00038 | 0,00050 | 0,00075 | 0,0010 | 0,0013 | 0,0015 | 215 (140 — 290) |

### Cutting data – JC877 Slot milling

| SMG |  | $a_p/DC$ | $f_z$  |        |       |       |       |       | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|--------|--------|-------|-------|-------|-------|-----------------|
|     |                                                                                   |          | 3      | 4      | 6     | 8     | 10    | 12    |                 |
| TS2 | E/A/D                                                                             | 1,0      | 0,0060 | 0,0080 | 0,012 | 0,016 | 0,020 | 0,025 | 170 (150 — 200) |
|     |                                                                                   | 1,0      | 0,0060 | 0,0080 | 0,012 | 0,016 | 0,020 | 0,025 | 115 (92 — 130)  |
| TP2 | E/A/D                                                                             | 1,0      | 0,0060 | 0,0080 | 0,012 | 0,016 | 0,020 | 0,025 | 115 (86 — 140)  |
|     |                                                                                   | 1,0      | 0,0060 | 0,0080 | 0,012 | 0,016 | 0,020 | 0,025 | 55 (35 — 80)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values



#### Cutting data – JC877 Side milling roughing – Inch

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$            |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|------------|------------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                |            | 1/4              | 3/8             | 1/2             |                                    |
| TS2 | E/A/D                                                                             | 0.334<br>0,334 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.040<br>0,0016 | 195 (170 — 220)<br>640 (560 — 720) |
| TS3 | E/A/D                                                                             | 0.334<br>0,334 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.040<br>0,0016 | 130 (110 — 150)<br>425 (370 — 490) |
| TP2 | E/A/D                                                                             | 0.334<br>0,334 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.040<br>0,0016 | 130 (98 — 160)<br>425 (330 — 520)  |
| TP3 | E/A/D                                                                             | 0.334<br>0,334 | 2.0<br>2,0 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.040<br>0,0016 | 65 (40 — 91)<br>215 (140 — 290)    |

Universal  
iron

Steel and cast  
iron

#### Cutting data – JC877 Slot milling – Inch

| SMG |  | $a_p/DC$   | $f_z$            |                  |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|------------|------------------|------------------|-----------------|------------------------------------|
|     |                                                                                   |            | 1/4              | 3/8              | 1/2             |                                    |
| TS2 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 160 (140 — 180)<br>520 (460 — 590) |
| TS3 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 105 (85 — 120)<br>345 (280 — 390)  |
| TP2 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 105 (80 — 130)<br>345 (270 — 420)  |
| TP3 | E/A/D                                                                             | 1.0<br>1,0 | 0.013<br>0,00050 | 0.019<br>0,00075 | 0.026<br>0,0010 | 55 (32 — 74)<br>180 (110 — 240)    |

Stainless steel  
and S-materials

Non ferrous

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm/tooth (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Hard

Plastic and cfrp

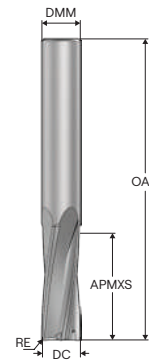
Graphite

X-Heads

Minimaster

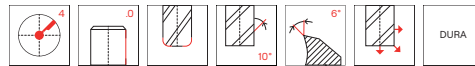
JC880

Composite – Square – 4 Flutes – Cylindrical – Corner radius



D

—Tolerances:  
—DMM=h5  
—DC=-0,02/-0,04 mm  
—RE=±0,01 mm



| Designation         | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | RE  | PCEDC | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-------------|----------------|
| 880040R020Z4.0-DURA | 02843012    | 2            | D          | mm   | mm   | mm    | mm    | mm  |       |             |                |
| 880050R020Z4.0-DURA | 02843013    | 2            | D          | 4,0  | 4,0  | 12,0  | 50,0  | 0,2 | 4     | Cylindrical | ■              |
| 880060R020Z4.0-DURA | 02720258    | 2            | D          | 5,0  | 5,0  | 15,0  | 50,0  | 0,2 | 4     | Cylindrical | ■              |
| 880080R020Z4.0-DURA | 02720259    | 2            | D          | 6,0  | 6,0  | 18,0  | 65,0  | 0,2 | 4     | Cylindrical | ■              |
| 880100R020Z4.0-DURA | 02720260    | 2            | D          | 8,0  | 8,0  | 24,0  | 70,0  | 0,2 | 4     | Cylindrical | ■              |
| 880120R020Z4.0-DURA | 02720261    | 2            | D          | 10,0 | 10,0 | 30,0  | 80,0  | 0,2 | 4     | Cylindrical | ■              |
| 880160R020Z4.0-DURA | 02720262    | 2            | D          | 12,0 | 12,0 | 36,0  | 100,0 | 0,2 | 4     | Cylindrical | ■              |
| 880200R020Z4.0-DURA | 02720263    | 2            | D          | 16,0 | 16,0 | 48,0  | 110,0 | 0,2 | 4     | Cylindrical | ■              |
|                     |             |              |            | 20,0 | 20,0 | 60,0  | 130,0 | 0,2 | 4     | Cylindrical | ■              |

■ Stocked standard.

#### Cutting data – JC880 Side milling roughing

| SMG |  | $a_e/DC$              | $a_p/DC$          | $f_z$                   |                        |                        |                        |                        |                        |                        | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|-----------------------|-------------------|-------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------------------|
|     |                                                                                   |                       |                   | 4                       | 6                      | 8                      | 10                     | 12                     | 16                     | 20                     |                                    |
| TS2 | E/A/D                                                                             | 0.400<br><i>0,400</i> | 1.9<br><i>1,9</i> | 0.024<br><i>0,00095</i> | 0.036<br><i>0,0014</i> | 0.048<br><i>0,0019</i> | 0.060<br><i>0,0024</i> | 0.070<br><i>0,0028</i> | 0.090<br><i>0,0036</i> | 0.10<br><i>0,0040</i>  | 190 (160 — 210)<br>620 (530 — 680) |
| TS3 | E/A/D                                                                             | 0.300<br><i>0,300</i> | 2.0<br><i>2,0</i> | 0.017<br><i>0,00065</i> | 0.025<br><i>0,0010</i> | 0.034<br><i>0,0013</i> | 0.042<br><i>0,0017</i> | 0.050<br><i>0,0020</i> | 0.060<br><i>0,0024</i> | 0.070<br><i>0,0028</i> | 130 (93 — 170)<br>425 (310 — 550)  |
| TP2 | E/A/D                                                                             | 0.400<br><i>0,400</i> | 1.9<br><i>1,9</i> | 0.024<br><i>0,00095</i> | 0.036<br><i>0,0014</i> | 0.048<br><i>0,0019</i> | 0.060<br><i>0,0024</i> | 0.070<br><i>0,0028</i> | 0.090<br><i>0,0036</i> | 0.10<br><i>0,0040</i>  | 125 (95 — 150)<br>410 (320 — 490)  |
| TP3 | E/A/D                                                                             | 0.300<br><i>0,300</i> | 2.0<br><i>2,0</i> | 0.017<br><i>0,00065</i> | 0.025<br><i>0,0010</i> | 0.034<br><i>0,0013</i> | 0.042<br><i>0,0017</i> | 0.050<br><i>0,0020</i> | 0.060<br><i>0,0024</i> | 0.070<br><i>0,0028</i> | 50 (40 — 92)<br>165 (140 — 300)    |

#### Cutting data – JC880 Slot milling

| SMG |  | $a_p/DC$          | $f_z$                   |                         |                         |                        |                        |                        |                        |                        | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|-------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------------------|
|     |                                                                                   |                   | 4                       | 5                       | 6                       | 8                      | 10                     | 12                     | 16                     | 20                     |                                    |
| TS2 | E/A/D                                                                             | 1.0<br><i>1,0</i> | 0.024<br><i>0,00095</i> | 0.030<br><i>0,0012</i>  | 0.036<br><i>0,0014</i>  | 0.048<br><i>0,0019</i> | 0.060<br><i>0,0024</i> | 0.070<br><i>0,0028</i> | 0.090<br><i>0,0036</i> | 0.10<br><i>0,0040</i>  | 150 (130 — 170)<br>490 (430 — 550) |
| TS3 | E/A/D                                                                             | 1.0<br><i>1,0</i> | 0.015<br><i>0,00060</i> | 0.019<br><i>0,00075</i> | 0.022<br><i>0,00085</i> | 0.030<br><i>0,0012</i> | 0.038<br><i>0,0015</i> | 0.044<br><i>0,0017</i> | 0.055<br><i>0,0022</i> | 0.065<br><i>0,0026</i> | 100 (71 — 130)<br>330 (240 — 420)  |
| TP2 | E/A/D                                                                             | 1.0<br><i>1,0</i> | 0.024<br><i>0,00095</i> | 0.030<br><i>0,0012</i>  | 0.036<br><i>0,0014</i>  | 0.048<br><i>0,0019</i> | 0.060<br><i>0,0024</i> | 0.070<br><i>0,0028</i> | 0.090<br><i>0,0036</i> | 0.10<br><i>0,0040</i>  | 100 (76 — 120)<br>330 (250 — 390)  |
| TP3 | E/A/D                                                                             | 1.0<br><i>1,0</i> | 0.015<br><i>0,00060</i> | 0.019<br><i>0,00075</i> | 0.022<br><i>0,00085</i> | 0.030<br><i>0,0012</i> | 0.038<br><i>0,0015</i> | 0.044<br><i>0,0017</i> | 0.055<br><i>0,0022</i> | 0.065<br><i>0,0026</i> | 40 (31 — 70)<br>130 (110 — 220)    |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

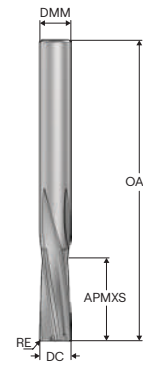
Graphite

X-Heads

Minimaster

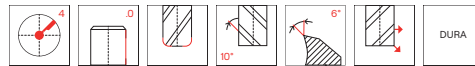
JC885

Composite – Square – 4 Flutes – Cylindrical – Corner radius



D

- Tolerances:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE=±0,01 mm
- Left hand helix



| Designation             | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | RE  | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|-----|-----|-------|------|-----|-------|-------------|----------------|
| JC885040D2R020.0Z4-DURA | 02843014    | 2            | D          | 4,0 | 4,0 | 12,0  | 50,0 | 0,2 | 4     | Cylindrical | ■              |
| JC885060D2R020.0Z4-DURA | 02843016    | 2            | D          | 6,0 | 6,0 | 18,0  | 70,0 | 0,2 | 4     | Cylindrical | ■              |
| JC885080D2R020.0Z4-DURA | 02843017    | 2            | D          | 8,0 | 8,0 | 24,0  | 80,0 | 0,2 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

### Cutting data – JC885 Side milling roughing

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$            |                 |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|------------|------------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |                |            | 4                | 6               | 8               | 10              |                                    |
| TS2 | E/A/D                                                                             | 0.400<br>0,400 | 2.0<br>2,0 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 190 (160 — 210)<br>620 (530 — 680) |
| TS3 | E/A/D                                                                             | 0.300<br>0,300 | 2.0<br>2,0 | 0.017<br>0,00065 | 0.025<br>0,0010 | 0.034<br>0,0013 | 0.042<br>0,0017 | 130 (99 — 170)<br>425 (330 — 550)  |
| TP2 | E/A/D                                                                             | 0.400<br>0,400 | 2.0<br>2,0 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.048<br>0,0019 | 0.060<br>0,0024 | 125 (94 — 150)<br>410 (310 — 490)  |
| TP3 | E/A/D                                                                             | 0.300<br>0,300 | 2.0<br>2,0 | 0.017<br>0,00065 | 0.025<br>0,0010 | 0.034<br>0,0013 | 0.042<br>0,0017 | 50 (33 — 92)<br>165 (110 — 300)    |

Universal  
iron

Steel and cast  
iron

### Cutting data – JC885 Slot milling

| SMG |  | $a_p/DC$     | $f_z$            |                  |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|--------------|------------------|------------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |              | 4                | 6                | 8               | 10              |                                    |
| TS2 | E/A/D                                                                             | 1.0<br>1,0   | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.048<br>0,0019 | 0.060<br>0,0024 | 150 (130 — 170)<br>490 (430 — 550) |
| TS3 | E/A/D                                                                             | 0.70<br>0,70 | 0.015<br>0,00060 | 0.022<br>0,00085 | 0.030<br>0,0012 | 0.038<br>0,0015 | 100 (76 — 130)<br>330 (250 — 420)  |
| TP2 | E/A/D                                                                             | 1.0<br>1,0   | 0.024<br>0,00095 | 0.036<br>0,0014  | 0.048<br>0,0019 | 0.060<br>0,0024 | 100 (75 — 120)<br>330 (250 — 390)  |
| TP3 | E/A/D                                                                             | 0.70<br>0,70 | 0.015<br>0,00060 | 0.022<br>0,00085 | 0.030<br>0,0012 | 0.038<br>0,0015 | 40 (26 — 70)<br>130 (86 — 220)     |

Stainless steel  
and S-materials

Non ferrous

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Hard

Plastic and cfrp

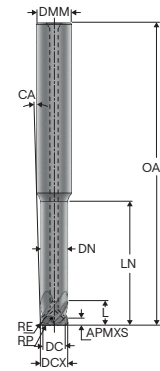
Graphite

X-Heads

Minimaster

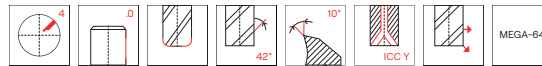
JC898

High feed – Stacked materials – Corner radius – 4 Flutes – Cylindrical – Corner radius



G

—Tolerances:  
—DMM=h5  
—DC= e7  
—RE= ±0,1 mm



| Designation          | Item number | Length index | Tool shape | CSP | DCX  | DC  | DMM  | L    | APMXS | OAL   | LN   | DN   | RE   | RP   | UTCN | CA° | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|-----|------|-----|------|------|-------|-------|------|------|------|------|------|-----|-------|-------------|----------------|
| JC898080G3HZ4A.0-M64 | 03245308    | 3            | G          | ■   | 8,0  | 4,0 | 10,0 | 6,0  | 0,43  | 88,0  | 35,0 | 7,6  | 0,5  | 0,87 | 0,22 | 1,5 | 4     | Cylindrical | ■              |
| JC898150G3HZ4A.0-M64 | 03245309    | 3            | G          | ■   | 15,0 | 7,5 | 16,0 | 12,0 | 0,796 | 125,0 | 70,0 | 14,3 | 0,94 | 1,63 | 0,4  | 0,4 | 4     | Cylindrical | ■              |

■ Stocked standard.

#### Cutting data – JC898 Side milling

| SMG         |  | $a_e/DCX$    | $a_p/DCX$      | $f_z$          |                | $v_c$                         |
|-------------|-----------------------------------------------------------------------------------|--------------|----------------|----------------|----------------|-------------------------------|
|             |                                                                                   |              |                | 8              | 15             |                               |
| S12+TS2/TP2 | D                                                                                 | 0,30<br>0,30 | 0,020<br>0,020 | 0,1<br>0,0040  | 0,15<br>0,0060 | 90 (80-120)<br>300 (270-400)  |
| TP2+TS2/TP2 | D                                                                                 | 0,30<br>0,30 | 0,034<br>0,034 | 0,12<br>0,0048 | 0,25<br>0,0100 | 120 (90-150)<br>400 (300-490) |

#### Cutting data – JC898 Slot milling

| SMG         |  | $a_p/DCX$      | $f_z$          |                | $v_c$                         |
|-------------|-----------------------------------------------------------------------------------|----------------|----------------|----------------|-------------------------------|
|             |                                                                                   |                | 8              | 15             |                               |
| S12+TP2/TS2 | D                                                                                 | 0.020<br>0.020 | 0.08<br>0,0032 | 0.10<br>0,0040 | 90 (80-120)<br>300 (270-400)  |
| N1+TP2/TS2  | D                                                                                 | 0.034<br>0.034 | 0.1<br>0,0040  | 0.10<br>0,0040 | 120 (90-150)<br>400 (300-490) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

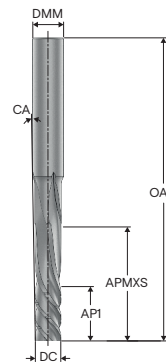
Graphite

X-Heads

Minimaster

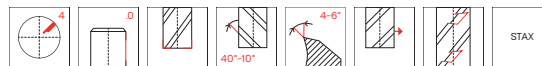
JC899

High performance – Stacked materials – Square – 4 Flutes – Cylindrical – Sharp



F

—Tolerances:  
—DMM=h5  
—DC= ±0,02 mm



| Designation          | Item number | Length index | Tool shape | Chip splitters | DC   | DMM  | APMXS | OAL   | CA°   | PCEDC | Shank       | Stock standard |   |
|----------------------|-------------|--------------|------------|----------------|------|------|-------|-------|-------|-------|-------------|----------------|---|
| JC899085F3S.0Z4-STAX | 03245482    | 3            | F          | ■              | mm   | 8,5  | 10,0  | 38,0  | 100,0 | 0,8   | 4           | Cylindrical    | ■ |
| JC899148F3S.0Z4-STAX | 03245480    | 3            | F          | ■              | 14,8 | 16,0 | 55,0  | 150,0 | 0,53  | 4     | Cylindrical | ■              |   |
| JC899148F4S.0Z4-STAX | 03245481    | 4            | F          | ■              | 14,8 | 16,0 | 62,0  | 150,0 | 0,48  | 4     | Cylindrical | ■              |   |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

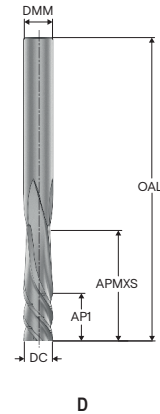
X-Heads

Minimaster



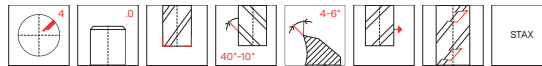
JC899

High performance – Stacked materials – Square – 4 Flutes – Cylindrical – Sharp – Inch



D

- Tolerances:
- DMM=h5
- DC= ±0,0008 Inch



| Designation           | Item number | Length index | Tool shape | Chip splitters | DC            | DMM           | APMXS         | AP1           | OAL           | PCEDC | Shank       | Stock standard |
|-----------------------|-------------|--------------|------------|----------------|---------------|---------------|---------------|---------------|---------------|-------|-------------|----------------|
| JC8990375D4S.0Z4-STAX | 03245483    | 4            | D          | ■              | inch<br>0.373 | inch<br>0.375 | inch<br>1.500 | inch<br>0.625 | inch<br>4.000 | 4     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

### Cutting data – JC899 Finishing

| SMG         |  | $a_e/DC$       | $a_p/DC$   | $f_z$          |                 | $v_c$                           |  |
|-------------|-----------------------------------------------------------------------------------|----------------|------------|----------------|-----------------|---------------------------------|--|
|             |                                                                                   |                |            | 8.5            | 14.8            |                                 |  |
| S12+TP2/TS2 | D                                                                                 | 0,025<br>0,025 | 4,0<br>4,0 | 0,04<br>0,0016 | 0,075<br>0,0030 | 40 (30 — 50)<br>140 (100 — 170) |  |
| N1+TP2/TS2  | D                                                                                 | 0,025<br>0,025 | 4,0<br>4,0 | 0,06<br>0,0032 | 0,09<br>0,0036  | 60 (50 — 75)<br>200 (170 — 250) |  |

### Cutting data – JC899 Finishing – Inch

| SMG         |  | $a_e/DC$       | $a_p/DC$   | $f_z$          |  | $v_c$                           |  |
|-------------|-----------------------------------------------------------------------------------|----------------|------------|----------------|--|---------------------------------|--|
|             |                                                                                   |                |            | 3/8            |  |                                 |  |
| S12+TP2/TS2 | D                                                                                 | 0,025<br>0,025 | 4,0<br>4,0 | 0,05<br>0,0022 |  | 40 (30 — 50)<br>140 (100 — 170) |  |
| N1+TP2/TS2  | D                                                                                 | 0,025<br>0,025 | 4,0<br>4,0 | 0,07<br>0,0028 |  | 60 (50 — 75)<br>200 (170 — 250) |  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

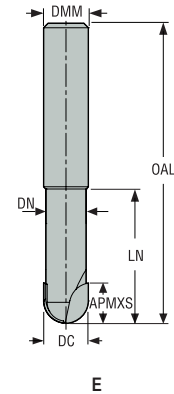
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

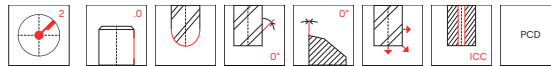
All cutting data are target values

JPD850

Composite – Ball nose – 2 Flutes – Cylindrical



- Tolerances:
- DMM=h5
- DC= h10
- CSP= 2 straight channels



| Designation       | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL  | LN   | DN  | RE  | PCEDC | Shank       | Stock standard |
|-------------------|-------------|--------------|------------|-----|------|------|-------|------|------|-----|-----|-------|-------------|----------------|
| JPD850060E2B.0Z2A | 02968184    | 2            | E          | ■   | 6,0  | 6,0  | 7,0   | 58,0 | 18,0 | 5,4 | 3,0 | 2     | Cylindrical | ■              |
| JPD850080E2B.0Z2A | 02968185    | 2            | E          | ■   | 8,0  | 8,0  | 8,0   | 64,0 | 24,0 | 7,2 | 4,0 | 2     | Cylindrical | ■              |
| JPD850100E2B.0Z2A | 02968186    | 2            | E          | ■   | 10,0 | 10,0 | 10,0  | 73,0 | 30,0 | 9,0 | 5,0 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JPD850 Copy milling

| SMG |       | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 |                | v <sub>c</sub>                         |
|-----|-------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------------------------------|
|     |       |                    |                    | 4               | 5               | 6               | 8               | 10             |                                        |
| TS2 | E/A/D | 0.200<br>0,200     | 0.50<br>0,50       | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040 | 550 (470 — 820)<br>1800 (1600 — 2600)  |
| TS3 | E/A/D | 0.200<br>0,200     | 0.50<br>0,50       | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040 | 310 (270 — 460)<br>1025 (890 — 1500)   |
| TP2 | E/A/D | 0.200<br>0,200     | 0.50<br>0,50       | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040 | 890 (750 — 1300)<br>2925 (2500 — 4200) |
| TP3 | E/A/D | 0.200<br>0,200     | 0.50<br>0,50       | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040 | 580 (500 — 870)<br>1900 (1700 — 2800)  |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

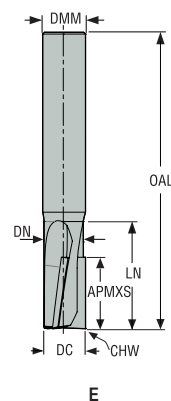
Graphite

X-Heads

Minimaster

JPD880

Composite – Square – 3 Flutes – Cylindrical – Chamfer

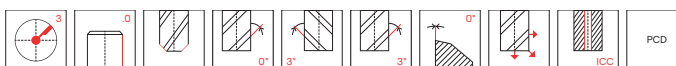


—Tolerances:

—DMM=h5

$$-DC=h10$$

—CSP=Y



| Designation       | Item number | Length index | Tool shape | Metric |      |      |       |      |      |      |     | Imperial |             |   | Stock standard |
|-------------------|-------------|--------------|------------|--------|------|------|-------|------|------|------|-----|----------|-------------|---|----------------|
|                   |             |              |            | CSP    | DC   | DMM  | APMXS | OAL  | LN   | DN   | CHW | PCEDC    | Shank       |   |                |
|                   |             |              |            |        | mm   | mm   | mm    | mm   | mm   | mm   | mm  |          |             |   |                |
| JPD880060G2C.0Z3A | 02968190    | 2            | G          | ■      | 6,0  | 8,0  | 13,0  | 64,0 | 20,0 | 5,3  | 0,1 | 3        | Cylindrical | ■ |                |
| JPD880080E2C.0Z3A | 02968191    | 2            | E          | ■      | 8,0  | 8,0  | 15,0  | 64,0 | 20,0 | 7,3  | 0,1 | 3        | Cylindrical | ■ |                |
| JPD880100E2C.0Z3A | 02968192    | 2            | E          | ■      | 10,0 | 10,0 | 13,0  | 73,0 | 30,0 | 9,2  | 0,1 | 3        | Cylindrical | ■ |                |
| JPD880120E2C.0Z3A | 02968194    | 2            | E          | ■      | 12,0 | 12,0 | 13,0  | 83,0 | 30,0 | 11,0 | 0,1 | 3        | Cylindrical | ■ |                |
| JPD880160E2C.0Z3A | 02968196    | 2            | E          | ■      | 16,0 | 16,0 | 13,0  | 90,0 | 35,0 | 14,8 | 0,1 | 3        | Cylindrical | ■ |                |
| JPD880100E3C.0Z3A | 02968193    | 3            | E          | ■      | 10,0 | 10,0 | 20,0  | 73,0 | 30,0 | 9,2  | 0,1 | 3        | Cylindrical | ■ |                |
| JPD880160E3C.0Z3A | 02968197    | 3            | E          | ■      | 16,0 | 16,0 | 20,0  | 90,0 | 35,0 | 14,8 | 0,1 | 3        | Cylindrical | ■ |                |

■ Stocked standard.

Universal

Steel and cast iron

## Stainless steel and S-materials

Non ferrous

Hard

## Plastic and cfrp

Graphite

## X-Heads

## Minimaster

#### Cutting data – JPD880 Side milling

| SMG |  | $a_e/DC$              | $a_p/DC$          | $f_z$                  |                        |                       |                       |                       | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|-----------------------|-------------------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|---------------------------------------|
|     |                                                                                   |                       |                   | 6                      | 8                      | 10                    | 12                    | 16                    |                                       |
| TS2 | E/A/D                                                                             | 0.300<br><i>0,300</i> | 1.2<br><i>1,2</i> | 0.060<br><i>0,0024</i> | 0.080<br><i>0,0032</i> | 0.10<br><i>0,0040</i> | 0.12<br><i>0,0048</i> | 0.15<br><i>0,0060</i> | 510 (430 — 750)<br>1675 (1500 — 2400) |
| TS3 | E/A/D                                                                             | 0.300<br><i>0,300</i> | 1.2<br><i>1,2</i> | 0.060<br><i>0,0024</i> | 0.080<br><i>0,0032</i> | 0.10<br><i>0,0040</i> | 0.12<br><i>0,0048</i> | 0.15<br><i>0,0060</i> | 275 (230 — 410)<br>900 (760 — 1300)   |
| TP2 | E/A/D                                                                             | 0.300<br><i>0,300</i> | 1.2<br><i>1,2</i> | 0.060<br><i>0,0024</i> | 0.080<br><i>0,0032</i> | 0.10<br><i>0,0040</i> | 0.12<br><i>0,0048</i> | 0.15<br><i>0,0060</i> | 810 (680 — 940)<br>2650 (2300 — 3000) |
| TP3 | E/A/D                                                                             | 0.300<br><i>0,300</i> | 1.2<br><i>1,2</i> | 0.060<br><i>0,0024</i> | 0.080<br><i>0,0032</i> | 0.10<br><i>0,0040</i> | 0.12<br><i>0,0048</i> | 0.15<br><i>0,0060</i> | 520 (440 — 780)<br>1700 (1500 — 2500) |

#### Cutting data – JPD880 Slot milling

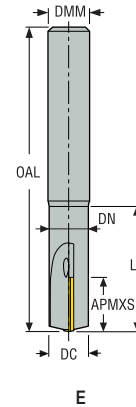
| SMG |  | $a_p/DC$          | $f_z$                  |                        |                        |                       |                       | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|-------------------|------------------------|------------------------|------------------------|-----------------------|-----------------------|---------------------------------------|
|     |                                                                                   |                   | 6                      | 8                      | 10                     | 12                    | 16                    |                                       |
| TS2 | E/A/D                                                                             | 1.0<br><i>1,0</i> | 0.055<br><i>0,0022</i> | 0.075<br><i>0,0030</i> | 0.090<br><i>0,0036</i> | 0.11<br><i>0,0044</i> | 0.14<br><i>0,0055</i> | 385 (330 — 570)<br>1275 (1100 — 1800) |
| TS3 | E/A/D                                                                             | 1.0<br><i>1,0</i> | 0.055<br><i>0,0022</i> | 0.075<br><i>0,0030</i> | 0.090<br><i>0,0036</i> | 0.11<br><i>0,0044</i> | 0.14<br><i>0,0055</i> | 210 (180 — 310)<br>690 (600 — 1000)   |
| TP2 | E/A/D                                                                             | 1.0<br><i>1,0</i> | 0.055<br><i>0,0022</i> | 0.075<br><i>0,0030</i> | 0.090<br><i>0,0036</i> | 0.11<br><i>0,0044</i> | 0.14<br><i>0,0055</i> | 620 (520 — 710)<br>2025 (1800 — 2300) |
| TP3 | E/A/D                                                                             | 1.0<br><i>1,0</i> | 0.055<br><i>0,0022</i> | 0.075<br><i>0,0030</i> | 0.090<br><i>0,0036</i> | 0.11<br><i>0,0044</i> | 0.14<br><i>0,0055</i> | 395 (340 — 590)<br>1300 (1200 — 1900) |

For cutting data recalculations, see pages 699 – 707

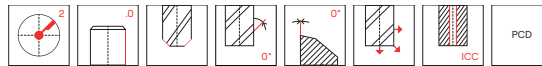
SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
 $v_c$  = m/min (sf/min)  
 $f_z$  = mm (in/tooth)  
 $a_p$  = mm/DC (in/DC) = factor  
 $a_e$  = mm/DC (in/DC) = factor  
All cutting data are target values

## JPD890

Composite – Square – 2 Flutes – Cylindrical – Chamfer



- Tolerances:
- DMM=h5
- DC=h10
- CSP=2 straight channels



| Designation       | Item number | Length index | Tool shape | CSP | DC   | DMM  | APMXS | OAL  | LN   | DN   | CHW | PCEDC | Shank       | Stock standard |
|-------------------|-------------|--------------|------------|-----|------|------|-------|------|------|------|-----|-------|-------------|----------------|
| JPD890060G2S.0Z2A | 02791382    | 2            | G          | ■   | 6,0  | 8,0  | 13,0  | 64,0 | 20,0 | 5,4  | 0,1 | 2     | Cylindrical | ■              |
| JPD890080E2S.0Z2A | 02791383    | 2            | E          | ■   | 8,0  | 8,0  | 15,0  | 64,0 | 20,0 | 7,4  | 0,1 | 2     | Cylindrical | ■              |
| JPD890100E2S.0Z2A | 02791384    | 2            | E          | ■   | 10,0 | 10,0 | 13,0  | 73,0 | 30,0 | 9,4  | 0,1 | 2     | Cylindrical | ■              |
| JPD890120E2S.0Z2A | 02791386    | 2            | E          | ■   | 12,0 | 12,0 | 13,0  | 83,0 | 30,0 | 11,4 | 0,1 | 2     | Cylindrical | ■              |
| JPD890100E3S.0Z2A | 02791385    | 3            | E          | ■   | 10,0 | 10,0 | 20,0  | 73,0 | 30,0 | 9,4  | 0,1 | 2     | Cylindrical | ■              |
| JPD890120E3S.0Z2A | 02791387    | 3            | E          | ■   | 12,0 | 12,0 | 20,0  | 83,0 | 30,0 | 11,4 | 0,1 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – JPD890 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                |                | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                    |                    | 6               | 8               | 10             | 12             |                                       |
| TS2 | E/A/D                                                                             | 0.300<br>0,300     | 1.2<br>1,2         | 0.12<br>0,0048  | 0.16<br>0,0065  | 0.20<br>0,0080 | 0.24<br>0,0095 | 415 (360 — 620)<br>1350 (1200 — 2000) |
| TS3 | E/A/D                                                                             | 0.200<br>0,200     | 1.2<br>1,2         | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.12<br>0,0048 | 305 (260 — 450)<br>1000 (860 — 1400)  |
| TP2 | E/A/D                                                                             | 0.300<br>0,300     | 1.2<br>1,2         | 0.12<br>0,0048  | 0.16<br>0,0065  | 0.20<br>0,0080 | 0.24<br>0,0095 | 670 (560 — 770)<br>2200 (1900 — 2500) |
| TP3 | E/A/D                                                                             | 0.200<br>0,200     | 1.2<br>1,2         | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.12<br>0,0048 | 580 (490 — 860)<br>1900 (1700 — 2800) |

## Cutting data – JPD890 Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                    | 6               | 8               | 10              | 12              |                                       |
| TS2 | E/A/D                                                                             | 1.0<br>1,0         | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 375 (320 — 550)<br>1225 (1100 — 1800) |
| TS3 | E/A/D                                                                             | 1.0<br>1,0         | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 225 (190 — 330)<br>740 (630 — 1000)   |
| TP2 | E/A/D                                                                             | 1.0<br>1,0         | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040  | 0.12<br>0,0048  | 600 (500 — 690)<br>1975 (1700 — 2200) |
| TP3 | E/A/D                                                                             | 1.0<br>1,0         | 0.042<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.085<br>0,0034 | 420 (360 — 630)<br>1375 (1200 — 2000) |

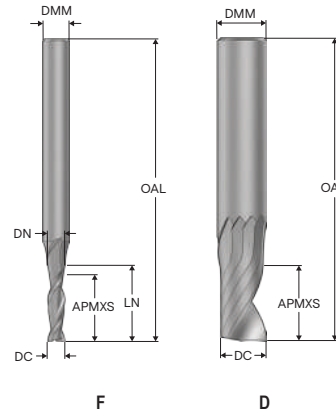
For cutting data recalculations, see pages 699 – 707

SMG = Seco material group  
Coolant = A=air D=dry E=emulsion M=mist spray  
v<sub>c</sub> = m/min (sf/min)  
f<sub>z</sub> = mm (in/tooth)  
a<sub>p</sub> = mm/DC (in/DC) = factor  
a<sub>e</sub> = mm/DC (in/DC) = factor  
All cutting data are target values

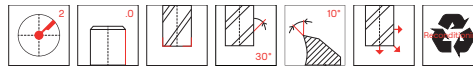


J93F

General purpose – Plastic – Square – 2 Flutes – Cylindrical – Sharp



- Tolerances:
- DMM= h5
- DC=  $\varnothing 1-\varnothing 6 = -0,02/-0,034$  mm
- DC=  $\varnothing 8-\varnothing 20 = -0,02/-0,044$  mm
- Regrind possible if DC is  $\geq \varnothing 6$



| Designation | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | CA° | PCEDC | Shank       | Stock standard |
|-------------|-------------|--------------|------------|------|------|-------|-------|-----|-------|-------------|----------------|
|             |             |              |            | mm   | mm   | mm    | mm    |     |       |             |                |
| 93015-F     | 02605874    | 2            | F          | 1,5  | 3,0  | 6,0   | 40,0  | 4,0 | 2     | Cylindrical | ■              |
| 93020-F     | 02605888    | 2            | F          | 2,0  | 3,0  | 9,0   | 40,0  | 2,5 | 2     | Cylindrical | ■              |
| 93030-F     | 02606060    | 2            | D          | 3,0  | 3,0  | 12,0  | 40,0  | —   | 2     | Cylindrical | ■              |
| 93040-F     | 02606061    | 2            | D          | 4,0  | 4,0  | 14,0  | 50,0  | —   | 2     | Cylindrical | ■              |
| 93060-F     | 02606063    | 2            | D          | 6,0  | 6,0  | 20,0  | 65,0  | —   | 2     | Cylindrical | ■              |
| 93080-F     | 02606064    | 2            | D          | 8,0  | 8,0  | 20,0  | 70,0  | —   | 2     | Cylindrical | ■              |
| 93100-F     | 02606065    | 2            | D          | 10,0 | 10,0 | 25,0  | 80,0  | —   | 2     | Cylindrical | ■              |
| 93120-F     | 02606066    | 2            | D          | 12,0 | 12,0 | 25,0  | 90,0  | —   | 2     | Cylindrical | ■              |
| 93160-F     | 02606068    | 2            | D          | 16,0 | 16,0 | 30,0  | 90,0  | —   | 2     | Cylindrical | ■              |
| 93L060-F    | 02606071    | 3            | D          | 6,0  | 6,0  | 40,0  | 100,0 | —   | 2     | Cylindrical | ■              |
| 93L080-F    | 02606072    | 3            | D          | 8,0  | 8,0  | 40,0  | 100,0 | —   | 2     | Cylindrical | ■              |
| 93L100-F    | 02606073    | 3            | D          | 10,0 | 10,0 | 40,0  | 100,0 | —   | 2     | Cylindrical | ■              |
| 93L120-F    | 02606074    | 3            | D          | 12,0 | 12,0 | 45,0  | 100,0 | —   | 2     | Cylindrical | ■              |
| 93L160-F    | 02606077    | 3            | D          | 16,0 | 16,0 | 45,0  | 100,0 | —   | 2     | Cylindrical | ■              |
| 93L200-F    | 02606078    | 3            | D          | 20,0 | 20,0 | 55,0  | 125,0 | —   | 2     | Cylindrical | ■              |
| 93XL120-F   | 02606079    | 4            | D          | 12,0 | 12,0 | 30,0  | 150,0 | —   | 2     | Cylindrical | ■              |
| 93XL160-F   | 02606080    | 4            | D          | 16,0 | 16,0 | 65,0  | 150,0 | —   | 2     | Cylindrical | ■              |
| 93XL200-F   | 02606081    | 4            | D          | 20,0 | 20,0 | 65,0  | 150,0 | —   | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – J93F Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>   |                  |                 |                 |                 |                 |                |                |                |                | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                    |                    | 1.5              | 2                | 3               | 4               | 6               | 8               | 10             | 12             | 16             | 20             |                                       |
| TS1 | A                                                                                 | 0.400<br>0,400     | 1.4<br>1,4         | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 590 (480 — 710)<br>1925 (1600 — 2300) |
| TP1 | A                                                                                 | 0.400<br>0,400     | 1.4<br>1,4         | 0.015<br>0,00060 | 0.020<br>0,00080 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.12<br>0,0048 | 0.15<br>0,0060 | 0.17<br>0,0065 | 570 (460 — 680)<br>1875 (1600 — 2200) |

## Cutting data – J93F Slot milling

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>   |                  |                  |                 |                 |                 |                 |                 |                |                | v <sub>c</sub>                        |
|-----|-----------------------------------------------------------------------------------|--------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                    | 1.5              | 2                | 3                | 4               | 6               | 8               | 10              | 12              | 16             | 20             |                                       |
| TS1 | A                                                                                 | 0.50<br>0,50       | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.13<br>0,0050 | 0.16<br>0,0065 | 500 (400 — 590)<br>1650 (1400 — 1900) |
| TP1 | A                                                                                 | 0.50<br>0,50       | 0.012<br>0,00048 | 0.016<br>0,00065 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 0.13<br>0,0050 | 0.16<br>0,0065 | 485 (390 — 580)<br>1600 (1300 — 1900) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

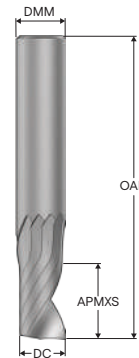
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

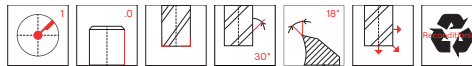
J28

General purpose – Plastic – Square – 1 Flute – Cylindrical – Sharp



D

- Tolerances:
- DMM= h5
- DC= Ø2-Ø6= -0,02/-0,034 mm
- DC= Ø8-Ø12= -0,02/-0,044 mm
- Regrind possible if DC is ≥ Ø6



| Designation | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL  | PCEDC | Shank       | Stock standard |
|-------------|-------------|--------------|------------|------|------|-------|------|-------|-------------|----------------|
|             |             |              |            | mm   | mm   | mm    | mm   |       |             |                |
| 28030       | 00029353    | 2            | D          | 3,0  | 3,0  | 10,0  | 40,0 | 1     | Cylindrical | ■              |
| 28040       | 00029361    | 2            | D          | 4,0  | 4,0  | 14,0  | 50,0 | 1     | Cylindrical | ■              |
| 28050       | 00029363    | 2            | D          | 5,0  | 5,0  | 16,0  | 60,0 | 1     | Cylindrical | ■              |
| 28060       | 00029366    | 2            | D          | 6,0  | 6,0  | 20,0  | 65,0 | 1     | Cylindrical | ■              |
| 28080       | 00029369    | 2            | D          | 8,0  | 8,0  | 25,0  | 75,0 | 1     | Cylindrical | ■              |
| 28100       | 00029370    | 2            | D          | 10,0 | 10,0 | 25,0  | 75,0 | 1     | Cylindrical | ■              |
| 28120       | 00029372    | 2            | D          | 12,0 | 12,0 | 25,0  | 75,0 | 1     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – J28 Side milling $a_e/DC=0,4$

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$           |                 |                 |                 |                |                |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|----------------|------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                |            | 3               | 4               | 5               | 6               | 8              | 10             | 12             |                                       |
| TS1 | A/D                                                                               | 0.300<br>0,300 | 1.5<br>1,5 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.13<br>0,0050 | 0.16<br>0,0065 | 490 (370 — 610)<br>1600 (1300 — 2000) |

#### Cutting data – J28 Slot milling

| SMG |  | $a_p/DC$   | $f_z$           |                 |                 |                 |                 |                 |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|---------------------------------------|
|     |                                                                                   |            | 3               | 4               | 5               | 6               | 8               | 10              | 12             |                                       |
| TS1 | A/D                                                                               | 1.0<br>1,0 | 0.026<br>0,0010 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.055<br>0,0022 | 0.070<br>0,0028 | 0.090<br>0,0036 | 0.11<br>0,0044 | 400 (310 — 490)<br>1300 (1100 — 1600) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values



## GRAPHITE

Seco diamond-coated solid carbide end mills are designed specifically for machining graphite. They offer up to 10 times more tool life than milling cutters with conventional coatings. Available in a variety of geometries and an extensive diameter range, these tools feature the best possible substrate to ensure the perfect adhesion of the diamond coating across a range of cutting parameters.

- JD620, JD630, JD640 and JME642 for radius type.
- JD660, SMB614, SMB616 and JMB642 for ball-nose type.

Universal

 Steel and cast  
iron

 Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

**Graphite**

X-Heads

Minimax

#### Tool Selection Graphite

| Universal                       |             |    |    |    |    |
|---------------------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Steel and cast iron             |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Stainless steel and S-materials |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Non ferrous                     |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Hard                            |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Plastic and cfrp                |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Graphite                        |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| X-Heads                         |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Minimaster                      |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Name                            |             | JD620                                                                               | JD630                                                                               | JD640                                                                                 | JD660                                                                                 |
| Page(s)                         |             | 3, 594                                                                              | 3, 596                                                                              | 3, 598                                                                                | 3, 600                                                                                |
| Family name                     |             | DIAMOND                                                                             | DIAMOND                                                                             | DIAMOND                                                                               | DIAMOND                                                                               |
| Type of mill                    |             |    |    |    |    |
| Shank                           | Cylindrical |    |    |    |    |
|                                 | Weldon      |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Number of Flutes                |             | 2                                                                                   | 3                                                                                   | 4                                                                                     | 2                                                                                     |
| CSP                             |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Diameter range                  | Metric      | 3-12                                                                                | 3-8                                                                                 | 6-12                                                                                  | 3-6                                                                                   |
|                                 | Inch        |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| Length availability             |             | 2,3,4                                                                               | 2,3,4                                                                               | 2,3,4                                                                                 | 1,2,3,4,5                                                                             |
| Operation                       |             |  |  |  |                                                                                       |
|                                 |             |  |  |  |                                                                                       |
|                                 |             |                                                                                     |                                                                                     |                                                                                       |  |
| SMG                             |             |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
| GR                              |             | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     |

■ Stock standard □ Weldon available, delivery time is 3 days.

● Preferred choice ○ Alternative choice

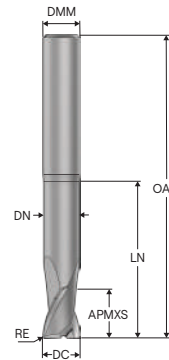
#### Tool Selection Graphite

|                     |             |                                                                                     |                                                                                     |                                                                                       |                                 |
|---------------------|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
|                     |             |    |    |    | Universal                       |
| Name                |             | SMB614/616                                                                          | JME642                                                                              | JMB642/JMB662                                                                         | Steel and cast iron             |
| Page(s)             |             | 3, 604                                                                              | 3, 604                                                                              | 3, 606                                                                                | Stainless steel and S-materials |
| Family name         |             | MINI DIAMOND                                                                        | MINI DIAMOND                                                                        | MINI DIAMOND                                                                          | Non ferrous                     |
| Type of mill        |             |    |    |    | Hard                            |
| Shank               | Cylindrical |    |    |    | Plastic and cfrp                |
|                     | Weldon      |                                                                                     |                                                                                     |                                                                                       |                                 |
| Number of Flutes    |             | 2                                                                                   | 2                                                                                   | 2                                                                                     | Graphite                        |
| CSP                 |             |                                                                                     |                                                                                     |                                                                                       |                                 |
| Diameter range      | Metric      | 0,6-3                                                                               | 0,2-2,0                                                                             | 0,2-3,0                                                                               | X-Heads                         |
|                     | Inch        |                                                                                     |                                                                                     |                                                                                       |                                 |
| Length availability |             | 1,3,5,6,7                                                                           | 1,3,5,6,7                                                                           | 1,3,5,6,7                                                                             | Minimaster                      |
| Operation           |             |  |  |  |                                 |
|                     |             |  |  |  |                                 |
|                     |             |  |                                                                                     |  |                                 |
| SMG                 |             |                                                                                     |                                                                                     |                                                                                       |                                 |
| GR                  |             | •                                                                                   | •                                                                                   | •                                                                                     |                                 |

■ Stock standard   □ Weldon available, delivery time is 3 days.  
 • Preferred choice   ○ Alternative choice

## JD620

Diamond – Graphite – Square – 2 Flutes – Cylindrical – Corner radius



E

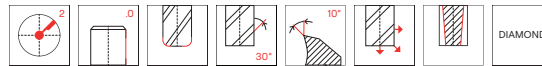
—Tolerances:

—Run-out= &lt;0,01 mm

—DMM= h5

—DC= -0,02/-0,04 mm

—RE= ±0,05 mm



| Designation           | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN    | DN   | RE  | PCEDC | Shank       | Stock standard |
|-----------------------|-------------|--------------|------------|------|------|-------|-------|-------|------|-----|-------|-------------|----------------|
| 620V030R050-DIAMOND   | 00023425    | 2            | E          | 3,0  | 3,0  | 5,0   | 60,0  | 30,0  | 2,85 | 0,5 | 2     | Cylindrical | ■              |
| 620V040R050-DIAMOND   | 00023427    | 2            | E          | 4,0  | 4,0  | 5,0   | 60,0  | 30,0  | 3,85 | 0,5 | 2     | Cylindrical | ■              |
| 620V060R050-DIAMOND   | 00023429    | 2            | E          | 6,0  | 6,0  | 10,0  | 80,0  | 40,0  | 5,8  | 0,5 | 2     | Cylindrical | ■              |
| 620V080R050-DIAMOND   | 00023431    | 2            | E          | 8,0  | 8,0  | 10,0  | 80,0  | 40,0  | 7,7  | 0,5 | 2     | Cylindrical | ■              |
| 620V100R050-DIAMOND   | 00023435    | 2            | E          | 10,0 | 10,0 | 10,0  | 80,0  | 40,0  | 9,7  | 0,5 | 2     | Cylindrical | ■              |
| 620V120R050-DIAMOND   | 00023437    | 2            | E          | 12,0 | 12,0 | 10,0  | 80,0  | 40,0  | 11,7 | 0,5 | 2     | Cylindrical | ■              |
| 620VL060R050-DIAMOND  | 00023444    | 3            | E          | 6,0  | 6,0  | 10,0  | 100,0 | 70,0  | 5,8  | 0,5 | 2     | Cylindrical | ■              |
| 620VL080R050-DIAMOND  | 00023446    | 3            | E          | 8,0  | 8,0  | 10,0  | 100,0 | 70,0  | 7,8  | 0,5 | 2     | Cylindrical | ■              |
| 620VL080R100-DIAMOND  | 00023447    | 3            | E          | 8,0  | 8,0  | 10,0  | 100,0 | 70,0  | 7,8  | 1,0 | 2     | Cylindrical | ■              |
| 620VL100R050-DIAMOND  | 00023448    | 3            | E          | 10,0 | 10,0 | 10,0  | 100,0 | 70,0  | 9,8  | 0,5 | 2     | Cylindrical | ■              |
| 620VL100R100-DIAMOND  | 00023449    | 3            | E          | 10,0 | 10,0 | 10,0  | 100,0 | 70,0  | 9,8  | 1,0 | 2     | Cylindrical | ■              |
| 620VL120R050-DIAMOND  | 00023450    | 3            | E          | 12,0 | 12,0 | 10,0  | 100,0 | 70,0  | 11,8 | 0,5 | 2     | Cylindrical | ■              |
| 620VL120R100-DIAMOND  | 00023451    | 3            | E          | 12,0 | 12,0 | 10,0  | 100,0 | 70,0  | 11,7 | 1,0 | 2     | Cylindrical | ■              |
| 620VSL100R100-DIAMOND | 00023452    | 4            | E          | 10,0 | 10,0 | 10,0  | 150,0 | 100,0 | 9,8  | 1,0 | 2     | Cylindrical | ■              |
| 620VSL120R100-DIAMOND | 00023453    | 4            | E          | 12,0 | 12,0 | 10,0  | 150,0 | 100,0 | 11,8 | 1,0 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster



### Cutting data – JD620 Side milling

| SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$           |                 |                 |                 |                |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|----------------|--------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                |              | 3               | 4               | 6               | 8               | 10             | 12             |                                       |
| GR1 | D                                                                                 | 0.500<br>0,500 | 0.50<br>0,50 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.12<br>0,0048 | 690 (580 — 800)<br>2275 (2000 — 2600) |

### Cutting data – JD620 Slot milling

| SMG |  | $a_p/DC$     | $f_z$            |                 |                 |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|--------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |              | 3                | 4               | 6               | 8               | 10              | 12              |                                       |
| GR1 | D                                                                                 | 0.50<br>0,50 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 610 (520 — 710)<br>2000 (1800 — 2300) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

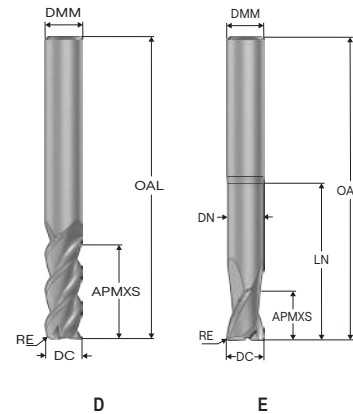
Graphite

X-Heads

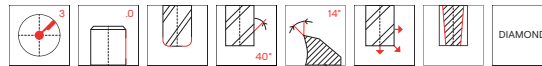
Minimaster

## JD630

Diamond – Graphite – Square – 3 Flutes – Cylindrical – Corner radius



—Tolerances:  
—Run-out= <0,01 mm  
—DMM= h5  
—DC= -0,02/-0,04 mm  
—RE= ±0,05 mm



| Designation          | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL   | LN   | DN  | RE   | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|-----|-----|-------|-------|------|-----|------|-------|-------------|----------------|
| 630030R015-DIAMOND   | 00023454    | 2            | D          | 3,0 | 3,0 | 12,0  | 40,0  | —    | —   | 0,15 | 3     | Cylindrical | ■              |
| 630040R020-DIAMOND   | 00023456    | 2            | D          | 4,0 | 4,0 | 14,0  | 50,0  | —    | —   | 0,2  | 3     | Cylindrical | ■              |
| 630050R030-DIAMOND   | 00023457    | 2            | D          | 5,0 | 5,0 | 16,0  | 50,0  | —    | —   | 0,3  | 3     | Cylindrical | ■              |
| 630060R030-DIAMOND   | 00023458    | 2            | D          | 6,0 | 6,0 | 20,0  | 65,0  | —    | —   | 0,3  | 3     | Cylindrical | ■              |
| 630080R050-DIAMOND   | 00023459    | 2            | D          | 8,0 | 8,0 | 20,0  | 65,0  | —    | —   | 0,5  | 3     | Cylindrical | ■              |
| 630V030R030-DIAMOND  | 00023464    | 3            | E          | 3,0 | 3,0 | 5,0   | 40,0  | 15,0 | 2,9 | 0,3  | 3     | Cylindrical | ■              |
| 630V040R030-DIAMOND  | 00023465    | 3            | E          | 4,0 | 4,0 | 5,0   | 50,0  | 20,0 | 3,9 | 0,3  | 3     | Cylindrical | ■              |
| 630VL030R020-DIAMOND | 00023467    | 4            | E          | 3,0 | 3,0 | 5,0   | 60,0  | 25,0 | 2,9 | 0,2  | 3     | Cylindrical | ■              |
| 630VL040R020-DIAMOND | 00023470    | 4            | E          | 4,0 | 4,0 | 5,0   | 60,0  | 30,0 | 3,9 | 0,2  | 3     | Cylindrical | ■              |
| 630VL050R020-DIAMOND | 00023471    | 4            | E          | 5,0 | 5,0 | 6,0   | 70,0  | 40,0 | 4,9 | 0,2  | 3     | Cylindrical | ■              |
| 630VL060R050-DIAMOND | 00023472    | 4            | E          | 6,0 | 6,0 | 10,0  | 100,0 | 60,0 | 5,9 | 0,5  | 3     | Cylindrical | ■              |

■ Stocked standard.

### Cutting data – JD630 Side milling

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$           |                 |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|----------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |                |            | 3               | 4               | 5               | 6               | 8               |                                       |
| GR1 | D                                                                                 | 0.500<br>0,500 | 1.0<br>1,0 | 0.030<br>0,0012 | 0.040<br>0,0016 | 0.050<br>0,0020 | 0.060<br>0,0024 | 0.080<br>0,0032 | 680 (580 — 790)<br>2225 (2000 — 2500) |

### Cutting data – JD630 Slot milling

| SMG |  | $a_p/DC$     | $f_z$            |                 |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|--------------|------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |              | 3                | 4               | 5               | 6               | 8               |                                       |
| GR1 | D                                                                                 | 0.50<br>0,50 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.048<br>0,0019 | 0.065<br>0,0026 | 620 (520 — 720)<br>2025 (1800 — 2300) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

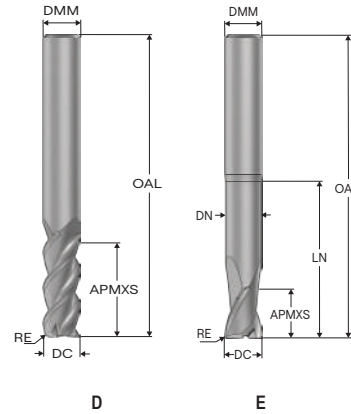
Graphite

X-Heads

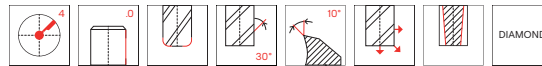
Minimaster

## JD640

Diamond – Graphite – Square – 4 Flutes – Cylindrical – Corner radius



—Tolerances:  
—Run-out= <0,01 mm  
—DMM= h5  
—DC= -0,02/-0,04 mm  
—RE= ±0,05 mm



| Designation          | Item number | Length index | Tool shape | DC   | DMM  | APMXS | OAL   | LN   | DN   | RE  | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|------|------|-------|-------|------|------|-----|-------|-------------|----------------|
| 640100R050-DIAMOND   | 00023474    | 2            | D          | 10,0 | 10,0 | 25,0  | 75,0  | —    | —    | 0,5 | 4     | Cylindrical | ■              |
| 640120R050-DIAMOND   | 00023475    | 2            | D          | 12,0 | 12,0 | 25,0  | 80,0  | —    | —    | 0,5 | 4     | Cylindrical | ■              |
| 640V060R050-DIAMOND  | 00023479    | 3            | E          | 6,0  | 6,0  | 10,0  | 80,0  | 40,0 | 5,9  | 0,5 | 4     | Cylindrical | ■              |
| 640V080R050-DIAMOND  | 00023480    | 3            | E          | 8,0  | 8,0  | 10,0  | 80,0  | 40,0 | 7,8  | 0,5 | 4     | Cylindrical | ■              |
| 640V100R050-DIAMOND  | 00023481    | 3            | E          | 10,0 | 10,0 | 12,0  | 80,0  | 40,0 | 9,8  | 0,5 | 4     | Cylindrical | ■              |
| 640V120R050-DIAMOND  | 00023483    | 3            | E          | 12,0 | 12,0 | 15,0  | 80,0  | 40,0 | 11,8 | 0,5 | 4     | Cylindrical | ■              |
| 640VL100R050-DIAMOND | 00023486    | 4            | E          | 10,0 | 10,0 | 12,0  | 125,0 | 80,0 | 9,8  | 0,5 | 4     | Cylindrical | ■              |
| 640VL120R050-DIAMOND | 02462698    | 4            | E          | 12,0 | 12,0 | 15,0  | 125,0 | 80,0 | 11,7 | 0,5 | 4     | Cylindrical | ■              |

■ Stocked standard.

### Cutting data – JD640 Side milling

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$           |                 |                |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|----------------|------------|-----------------|-----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |                |            | 6               | 8               | 10             | 12             |                                       |
| GR1 | D                                                                                 | 0.500<br>0,500 | 1.0<br>1,0 | 0.060<br>0,0024 | 0.080<br>0,0032 | 0.10<br>0,0040 | 0.12<br>0,0048 | 680 (570 — 780)<br>2225 (1900 — 2500) |

### Cutting data – JD640 Slot milling

| SMG |  | $a_p/DC$     | $f_z$           |                 |                 |                 | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|--------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|     |                                                                                   |              | 6               | 8               | 10              | 12              |                                       |
| GR1 | D                                                                                 | 0.50<br>0,50 | 0.048<br>0,0019 | 0.065<br>0,0026 | 0.080<br>0,0032 | 0.095<br>0,0038 | 610 (520 — 710)<br>2000 (1800 — 2300) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

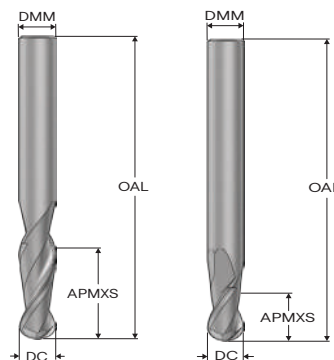
Graphite

X-Heads

Minimaster

## JD660

Diamond – Graphite – Ball nose – 2 Flutes – Cylindrical



D

E

—Tolerances:

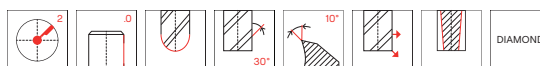
—Run-out=&lt;0,01 mm

—DMM=h5

—DC= -0,02/-0,04 mm

—RE= ±0,01 mm

—B=0,9°



| Designation      | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL   | LN   | DN  | RE  | PCEDC | Shank       | Stock standard |
|------------------|-------------|--------------|------------|-----|-----|-------|-------|------|-----|-----|-------|-------------|----------------|
|                  |             |              |            | mm  | mm  | mm    | mm    | mm   | mm  | mm  |       |             |                |
| 660030-DIAMOND   | 00023488    | 1            | D          | 3,0 | 3,0 | 8,0   | 40,0  | —    | —   | 1,5 | 2     | Cylindrical | ■              |
| 660040-DIAMOND   | 00023489    | 1            | D          | 4,0 | 4,0 | 14,0  | 50,0  | —    | —   | 2,0 | 2     | Cylindrical | ■              |
| 660060-DIAMOND   | 00023491    | 1            | D          | 6,0 | 6,0 | 20,0  | 65,0  | —    | —   | 3,0 | 2     | Cylindrical | ■              |
| 660V030-DIAMOND  | 00023501    | 2            | E          | 3,0 | 3,0 | 6,0   | 40,0  | 15,0 | 2,9 | 1,5 | 2     | Cylindrical | ■              |
| 660V040-DIAMOND  | 00023502    | 2            | E          | 4,0 | 4,0 | 6,0   | 40,0  | 15,0 | 3,9 | 2,0 | 2     | Cylindrical | ■              |
| 660V060-DIAMOND  | 00023505    | 2            | E          | 6,0 | 6,0 | 10,0  | 65,0  | 35,0 | 5,9 | 3,0 | 2     | Cylindrical | ■              |
| 660L030-DIAMOND  | 00023494    | 3            | D          | 3,0 | 3,0 | 20,0  | 60,0  | —    | —   | 1,5 | 2     | Cylindrical | ■              |
| 660L040-DIAMOND  | 00023496    | 3            | D          | 4,0 | 4,0 | 30,0  | 60,0  | —    | —   | 2,0 | 2     | Cylindrical | ■              |
| 660L060-DIAMOND  | 00023498    | 3            | D          | 6,0 | 6,0 | 40,0  | 100,0 | —    | —   | 3,0 | 2     | Cylindrical | ■              |
| 660VL030-DIAMOND | 00023511    | 4            | E          | 3,0 | 3,0 | 6,0   | 60,0  | 30,0 | 2,9 | 1,5 | 2     | Cylindrical | ■              |
| 660VL040-DIAMOND | 00023512    | 4            | E          | 4,0 | 4,0 | 6,0   | 60,0  | 30,0 | 3,9 | 2,0 | 2     | Cylindrical | ■              |
| 660VL060-DIAMOND | 00023516    | 4            | E          | 6,0 | 6,0 | 10,0  | 100,0 | 70,0 | 5,8 | 3,0 | 2     | Cylindrical | ■              |

■ Stocked standard.

## Cutting data – JD660 Copy milling roughing

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$            |                 |                 | $v_c$                                  |
|-----|-----------------------------------------------------------------------------------|----------------|------------|------------------|-----------------|-----------------|----------------------------------------|
|     |                                                                                   |                |            | 3                | 4               | 6               |                                        |
| GR1 | D                                                                                 | 0.400<br>0,400 | 2.4<br>2,4 | 0.024<br>0,00095 | 0.032<br>0,0013 | 0.046<br>0,0018 | 920 (780 — 1000)<br>3025 (2600 — 3200) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

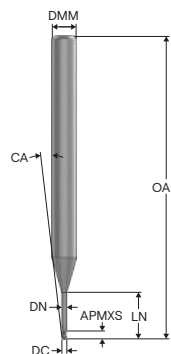
Graphite

X-Heads

Minimaster

## SMB614/616

Miniature – Graphite – Ball nose – 2 Flutes – Cylindrical



G

—Tolerances:

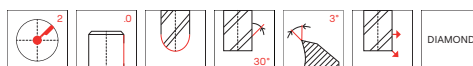
—Run-out= &lt;0,005 mm

—DMM = h5

—DC Coated = -0,01/-0,025 mm

—DC Coated = 0/-0,015 mm

—RE = ±0,01 mm



| Designation      | Grade | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE  | CA°  | PCEDC | Shank       | Stock standard |
|------------------|-------|-------------|--------------|------------|-----|-----|-------|------|------|------|-----|------|-------|-------------|----------------|
|                  |       |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm  |      |       |             |                |
| SMB614010G4B.0Z2 | DIA   | 10108776    | 4            | G          | 1,0 | 4,0 | 1,0   | 50,0 | 7,5  | 0,95 | 0,5 | 6,54 | 2     | Cylindrical | ■              |
| SMB614020G4B.0Z2 | DIA   | 10108777    | 4            | G          | 2,0 | 4,0 | 2,0   | 50,0 | 12,0 | 1,9  | 1,0 | 3,74 | 2     | Cylindrical | ■              |
| SMB614030G4B.0Z2 | DIA   | 10108778    | 4            | G          | 3,0 | 4,0 | 3,0   | 50,0 | 20,0 | 2,85 | 1,5 | 1,36 | 2     | Cylindrical | ■              |
| SMB614020G5B.0Z2 | DIA   | 10108779    | 5            | G          | 2,0 | 4,0 | 2,0   | 50,0 | 16,0 | 1,9  | 1,0 | 3,13 | 2     | Cylindrical | ■              |
| SMB614006G6B.0Z2 | DIA   | 10108780    | 6            | G          | 0,6 | 4,0 | 0,6   | 50,0 | 6,0  | 0,55 | 0,3 | 7,72 | 2     | Cylindrical | ■              |
| SMB614008G6B.0Z2 | DIA   | 10108781    | 6            | G          | 0,8 | 4,0 | 0,8   | 50,0 | 10,0 | 0,75 | 0,4 | 5,69 | 2     | Cylindrical | ■              |
| SMB614010G6B.0Z2 | DIA   | 10108782    | 6            | G          | 1,0 | 4,0 | 0,5   | 50,0 | 12,0 | 0,95 | 0,5 | 4,88 | 2     | Cylindrical | ■              |
| SMB614020G6B.0Z2 | DIA   | 10108783    | 6            | G          | 2,0 | 4,0 | 2,0   | 50,0 | 20,0 | 1,9  | 1,0 | 2,46 | 2     | Cylindrical | ■              |
| SMB614006G7B.0Z2 | DIA   | 10108784    | 7            | G          | 0,6 | 4,0 | 0,6   | 50,0 | 10,0 | 0,55 | 0,3 | 5,87 | 2     | Cylindrical | ■              |
| SMB614010G7B.0Z2 | DIA   | 10108785    | 7            | G          | 1,0 | 4,0 | 1,0   | 50,0 | 18,0 | 0,95 | 0,5 | 3,64 | 2     | Cylindrical | ■              |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster



### Cutting data – SMB614 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$     | $f_z$            |                  |                 |                 |                 | $v_c$                            |
|-----|-----------------------------------------------------------------------------------|------------------|--------------|------------------|------------------|-----------------|-----------------|-----------------|----------------------------------|
|     |                                                                                   |                  |              | 0.6              | 0.8              | 1               | 2               | 3               |                                  |
| GR1 | D                                                                                 | 0,0700<br>0.0700 | 0,10<br>0.10 | 0,018<br>0.00070 | 0,024<br>0.00095 | 0,030<br>0.0012 | 0,060<br>0.0024 | 0,090<br>0.0036 | 95 (54 — 120)<br>310 (180 — 390) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

### Cutting data – SMB616 Copy milling roughing

| SMG |  | $a_e/DC$         | $a_p/DC$     | $f_z$            |                 |                 |                 | $v_c$                            |
|-----|-----------------------------------------------------------------------------------|------------------|--------------|------------------|-----------------|-----------------|-----------------|----------------------------------|
|     |                                                                                   |                  |              | 0.6              | 1               | 2               | 3               |                                  |
| GR1 | D                                                                                 | 0,0700<br>0.0700 | 0,10<br>0.10 | 0,018<br>0.00070 | 0,030<br>0.0012 | 0,060<br>0.0024 | 0,090<br>0.0036 | 95 (54 — 120)<br>310 (180 — 390) |

For cutting data recalculations, see pages 699 – 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

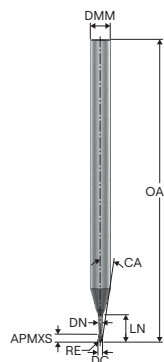
Graphite

X-Heads

Minimaster

## JME642

Miniature – Graphite – Square – Diamond – 2 Flutes – DMM 4 – Cylindrical – Corner radius



G

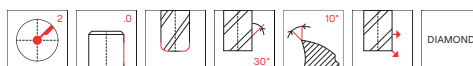
—Tolerances:

—Run-out= <0,005 mm

—DMM= h5

—DC= 0/-0,015 mm

—RE= ±0,007 mm



| Designation             | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°   | PCEDC | Shank       | Stock standard |
|-------------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|-------|-------|-------------|----------------|
| JME642002G1R002.0Z2-DIA | 03215524    | 1            | G          | mm  | mm  | mm    | mm   | mm   | mm   | mm   | 14,32 | 2     | Cylindrical | ■              |
| JME642003G1R002.0Z2-DIA | 03215525    | 1            | G          | 0,3 | 4,0 | 0,5   | 40,0 | 0,5  | 0,28 | 0,02 | 14,1  | 2     | Cylindrical | ■              |
| JME642004G1R004.0Z2-DIA | 03215526    | 1            | G          | 0,4 | 4,0 | 0,6   | 40,0 | 2,0  | 0,37 | 0,04 | 11,67 | 2     | Cylindrical | ■              |
| JME642005G3R005.0Z2-DIA | 03215527    | 3            | G          | 0,5 | 4,0 | 0,7   | 40,0 | 2,5  | 0,45 | 0,05 | 10,97 | 2     | Cylindrical | ■              |
| JME642006G3R006.0Z2-DIA | 03215528    | 3            | G          | 0,6 | 4,0 | 1,0   | 60,0 | 3,0  | 0,55 | 0,06 | 10,31 | 2     | Cylindrical | ■              |
| JME642008G3R008.0Z2-DIA | 03215529    | 3            | G          | 0,8 | 4,0 | 1,2   | 60,0 | 4,0  | 0,75 | 0,08 | 9,31  | 2     | Cylindrical | ■              |
| JME642010G3R010.0Z2-DIA | 03215530    | 3            | G          | 1,0 | 4,0 | 1,6   | 60,0 | 5,0  | 0,95 | 0,1  | 8,04  | 2     | Cylindrical | ■              |
| JME642012G3R012.0Z2-DIA | 03215531    | 3            | G          | 1,2 | 4,0 | 1,6   | 60,0 | 6,0  | 1,15 | 0,12 | 7,09  | 2     | Cylindrical | ■              |
| JME642015G3R015.0Z2-DIA | 03215532    | 3            | G          | 1,5 | 4,0 | 2,4   | 60,0 | 7,5  | 1,4  | 0,15 | 5,8   | 2     | Cylindrical | ■              |
| JME642020G3R015.0Z2-DIA | 03236441    | 3            | G          | 2,0 | 4,0 | 2,2   | 60,0 | 10,0 | 1,9  | 0,15 | 4,11  | 2     | Cylindrical | ■              |
| JME642020G3R020.0Z2-DIA | 03215533    | 3            | G          | 2,0 | 4,0 | 3,0   | 60,0 | 10,0 | 1,9  | 0,2  | 4,11  | 2     | Cylindrical | ■              |
| JME642005G5R005.0Z2-DIA | 03215534    | 5            | G          | 0,5 | 4,0 | 0,7   | 40,0 | 4,0  | 0,45 | 0,05 | 9,43  | 2     | Cylindrical | ■              |
| JME642006G5R006.0Z2-DIA | 03215535    | 5            | G          | 0,6 | 4,0 | 1,0   | 60,0 | 5,0  | 0,55 | 0,06 | 8,5   | 2     | Cylindrical | ■              |
| JME642008G5R008.0Z2-DIA | 03215536    | 5            | G          | 0,8 | 4,0 | 1,2   | 60,0 | 7,0  | 0,75 | 0,08 | 7,02  | 2     | Cylindrical | ■              |
| JME642010G5R010.0Z2-DIA | 03215537    | 5            | G          | 1,0 | 4,0 | 1,6   | 60,0 | 8,5  | 0,95 | 0,1  | 6,06  | 2     | Cylindrical | ■              |
| JME642012G5R012.0Z2-DIA | 03215538    | 5            | G          | 1,2 | 4,0 | 1,6   | 60,0 | 10,0 | 1,15 | 0,12 | 5,23  | 2     | Cylindrical | ■              |
| JME642015G5R015.0Z2-DIA | 03215539    | 5            | G          | 1,5 | 4,0 | 2,4   | 60,0 | 12,0 | 1,4  | 0,15 | 4,25  | 2     | Cylindrical | ■              |
| JME642020G5R015.0Z2-DIA | 03236442    | 5            | G          | 2,0 | 4,0 | 2,2   | 60,0 | 16,0 | 1,9  | 0,15 | 2,87  | 2     | Cylindrical | ■              |
| JME642020G5R020.0Z2-DIA | 03215540    | 5            | G          | 2,0 | 4,0 | 3,0   | 60,0 | 16,0 | 1,9  | 0,2  | 2,87  | 2     | Cylindrical | ■              |
| JME642010G6R010.0Z2-DIA | 03215541    | 6            | G          | 1,0 | 4,0 | 1,6   | 60,0 | 12,0 | 0,95 | 0,1  | 4,86  | 2     | Cylindrical | ■              |
| JME642015G6R015.0Z2-DIA | 03215542    | 6            | G          | 1,5 | 4,0 | 2,4   | 50,0 | 18,0 | 1,4  | 0,15 | 3,13  | 2     | Cylindrical | ■              |
| JME642020G6R020.0Z2-DIA | 03215543    | 6            | G          | 2,0 | 4,0 | 3,0   | 60,0 | 25,0 | 1,9  | 0,2  | 1,97  | 2     | Cylindrical | ■              |
| JME642020G7R020.0Z2-DIA | 03215544    | 7            | G          | 2,0 | 4,0 | 3,0   | 60,0 | 30,0 | 1,9  | 0,2  | 1,68  | 2     | Cylindrical | ■              |

■ Stocked standard.

### Cutting data – JME642 Side milling roughing

| SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$            |                 |                 |                 |                 |                 |                 |                 |                 |                 | $v_c$                               |
|-----|-----------------------------------------------------------------------------------|----------------|--------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------------------------|
|     |                                                                                   |                |              | 0.2              | 0.3             | 0.4             | 0.5             | 0.6             | 0.8             | 1               | 1.2             | 1.5             | 2               |                                     |
| GR1 | D                                                                                 | 0.300<br>0,300 | 0.80<br>0,80 | 0.024<br>0,00095 | 0.036<br>0,0014 | 0.044<br>0,0017 | 0.048<br>0,0019 | 0.055<br>0,0022 | 0.060<br>0,0024 | 0.065<br>0,0026 | 0.070<br>0,0028 | 0.075<br>0,0030 | 0.085<br>0,0034 | 175 (130 — 370)<br>570 (430 — 1200) |

### Cutting data – JME642 Slot milling

| SMG |  | $a_p/DC$     | $f_z$            |                 |                 |                 |                 |                 |                 |                 |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|--------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |              | 0.2              | 0.3             | 0.4             | 0.5             | 0.6             | 0.8             | 1               | 1.2             | 1.5             | 2               |                                    |
| GR1 | D                                                                                 | 0.30<br>0,30 | 0.022<br>0,00085 | 0.032<br>0,0013 | 0.040<br>0,0016 | 0.046<br>0,0018 | 0.050<br>0,0020 | 0.055<br>0,0022 | 0.065<br>0,0026 | 0.065<br>0,0026 | 0.075<br>0,0030 | 0.080<br>0,0032 | 140 (110 — 300)<br>460 (370 — 980) |

Table based on LV3, please recalc based on length version chosen. See page(s). 699 - 707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

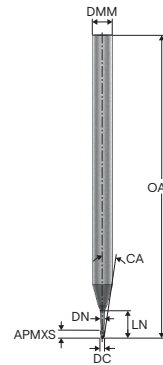
Graphite

X-Heads

Minimaster

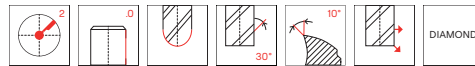
## JMB642/JMB662

Miniature – Graphite – Ball nose – Diamond – 2 Flutes – DMM 4-6 – Cylindrical



G

—Tolerances:  
—Run-out= <0,005 mm  
—DMM= h5  
—DC= 0/-0,015 mm  
—RE= ±0,007 mm



| Designation          | Item number | Length index | Tool shape | DC  | DMM | APMXS | OAL  | LN   | DN   | RE   | CA°   | PCEDC | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|-----|-----|-------|------|------|------|------|-------|-------|-------------|----------------|
|                      |             |              |            | mm  | mm  | mm    | mm   | mm   | mm   | mm   |       |       |             |                |
| JMB642002G1B.0Z2-DIA | 03215373    | 1            | G          | 0,2 | 4,0 | 0,3   | 40,0 | 0,4  | 0,18 | 0,1  | 14,5  | 2     | Cylindrical | ■              |
| JMB642003G1B.0Z2-DIA | 03215374    | 1            | G          | 0,3 | 4,0 | 0,5   | 40,0 | 0,6  | 0,28 | 0,15 | 14,17 | 2     | Cylindrical | ■              |
| JMB642004G1B.0Z2-DIA | 03215375    | 1            | G          | 0,4 | 4,0 | 2,0   | 40,0 | 0,8  | 0,37 | 0,2  | 13,8  | 2     | Cylindrical | ■              |
| JMB642005G3B.0Z2-DIA | 03215376    | 3            | G          | 0,5 | 4,0 | 0,7   | 40,0 | 2,5  | 0,45 | 0,25 | 11,19 | 2     | Cylindrical | ■              |
| JMB642006G3B.0Z2-DIA | 03215377    | 3            | G          | 0,6 | 4,0 | 1,0   | 60,0 | 3,0  | 0,55 | 0,3  | 10,55 | 2     | Cylindrical | ■              |
| JMB642008G3B.0Z2-DIA | 03215378    | 3            | G          | 0,8 | 4,0 | 1,2   | 60,0 | 4,0  | 0,75 | 0,4  | 9,38  | 2     | Cylindrical | ■              |
| JMB642010G3B.0Z2-DIA | 03215379    | 3            | G          | 1,0 | 4,0 | 1,6   | 60,0 | 5,0  | 0,95 | 0,5  | 8,33  | 2     | Cylindrical | ■              |
| JMB642012G3B.0Z2-DIA | 03215380    | 3            | G          | 1,2 | 4,0 | 1,6   | 60,0 | 6,0  | 1,15 | 0,6  | 7,38  | 2     | Cylindrical | ■              |
| JMB642015G3B.0Z2-DIA | 03215381    | 3            | G          | 1,5 | 4,0 | 2,4   | 60,0 | 7,5  | 1,4  | 0,75 | 6,08  | 2     | Cylindrical | ■              |
| JMB642020G3B.0Z2-DIA | 03215382    | 3            | G          | 2,0 | 4,0 | 3,0   | 60,0 | 10,0 | 1,9  | 1,0  | 4,35  | 2     | Cylindrical | ■              |
| JMB662030G3B.0Z2-DIA | 03215384    | 3            | G          | 3,0 | 6,0 | 3,0   | 60,0 | 15,0 | 2,8  | 1,5  | 4,38  | 2     | Cylindrical | ■              |
| JMB642005G5B.0Z2-DIA | 03215387    | 5            | G          | 0,5 | 4,0 | 0,7   | 40,0 | 4,0  | 0,45 | 0,25 | 9,6   | 2     | Cylindrical | ■              |
| JMB642006G5B.0Z2-DIA | 03215388    | 5            | G          | 0,6 | 4,0 | 1,0   | 60,0 | 5,0  | 0,55 | 0,3  | 8,68  | 2     | Cylindrical | ■              |
| JMB642008G5B.0Z2-DIA | 03215389    | 5            | G          | 0,8 | 4,0 | 1,2   | 60,0 | 7,0  | 0,75 | 0,4  | 7,18  | 2     | Cylindrical | ■              |
| JMB642010G5B.0Z2-DIA | 03215390    | 5            | G          | 1,0 | 4,0 | 1,6   | 60,0 | 8,5  | 0,95 | 0,5  | 6,22  | 2     | Cylindrical | ■              |
| JMB642012G5B.0Z2-DIA | 03215391    | 5            | G          | 1,2 | 4,0 | 1,6   | 60,0 | 10,0 | 1,15 | 0,6  | 5,4   | 2     | Cylindrical | ■              |
| JMB642015G5B.0Z2-DIA | 03215392    | 5            | G          | 1,5 | 4,0 | 2,4   | 60,0 | 12,0 | 1,4  | 0,75 | 4,4   | 2     | Cylindrical | ■              |
| JMB642020G5B.0Z2-DIA | 03215393    | 5            | G          | 2,0 | 4,0 | 3,0   | 60,0 | 16,0 | 1,9  | 1,0  | 2,99  | 2     | Cylindrical | ■              |
| JMB662030G5B.0Z2-DIA | 03215395    | 5            | G          | 3,0 | 6,0 | 3,0   | 60,0 | 24,0 | 2,8  | 1,5  | 3,0   | 2     | Cylindrical | ■              |
| JMB642010G6B.0Z2-DIA | 03215396    | 6            | G          | 1,0 | 4,0 | 1,6   | 60,0 | 12,0 | 0,95 | 0,5  | 4,96  | 2     | Cylindrical | ■              |
| JMB642015G6B.0Z2-DIA | 03215397    | 6            | G          | 1,5 | 4,0 | 2,4   | 60,0 | 18,0 | 1,4  | 0,75 | 3,21  | 2     | Cylindrical | ■              |
| JMB642020G6B.0Z2-DIA | 03215398    | 6            | G          | 2,0 | 4,0 | 3,0   | 60,0 | 25,0 | 1,9  | 1,0  | 2,03  | 2     | Cylindrical | ■              |
| JMB642020G7B.0Z2-DIA | 03215399    | 7            | G          | 2,0 | 4,0 | 3,0   | 60,0 | 30,0 | 1,9  | 1,0  | 1,72  | 2     | Cylindrical | ■              |

■ Stocked standard.

## Cutting data – JMB642/662 Side milling roughing

| SMG |  | $a_e/DC$ | $a_p/DC$ | $f_z$    |         |         |         |         |         |         |         |         |         | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|----------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------------|
|     |                                                                                   |          |          | 0.2      | 0.3     | 0.4     | 0.5     | 0.6     | 0.8     | 1       | 1.2     | 1.5     | 2       |                 |
| GR1 | D                                                                                 | 0.300    | 0.50     | 0.0024   | 0.0036  | 0.0048  | 0.0060  | 0.0070  | 0.0095  | 0.012   | 0.014   | 0.017   | 0.020   | 250 (200 — 300) |
|     |                                                                                   | 0,300    | 0,50     | 0,000095 | 0,00014 | 0,00019 | 0,00024 | 0,00028 | 0,00038 | 0,00048 | 0,00055 | 0,00065 | 0,00080 | 820 (660 — 980) |

## Cutting data – JMB642/662 Copy milling roughing

| SMG |  | $a_e/DC$ | $a_p/DC$ | $f_z$    |         |         |         |         |         |         |         |         |         | $v_c$           |
|-----|-----------------------------------------------------------------------------------|----------|----------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------------|
|     |                                                                                   |          |          | 0.2      | 0.3     | 0.4     | 0.5     | 0.6     | 0.8     | 1       | 1.2     | 1.5     | 2       |                 |
| GR1 | D                                                                                 | 0.300    | 0.50     | 0.0024   | 0.0036  | 0.0048  | 0.0060  | 0.0070  | 0.0095  | 0.012   | 0.014   | 0.017   | 0.020   | 250 (200 — 300) |
|     |                                                                                   | 0,300    | 0,50     | 0,000095 | 0,00014 | 0,00019 | 0,00024 | 0,00028 | 0,00038 | 0,00048 | 0,00055 | 0,00065 | 0,00080 | 820 (660 — 980) |

Table based on LV3, please recalc based on length version chosen. See page(s) 698-707

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster



## SECO X-HEADS

The new Seco Tools Exchangeable Head range is a comprehensive offering to meet most customer demands. Utilizing our proven solid carbide geometries, we offer various types to machine most materials and complete various machining operations. The connection is a proven exchangeable head design to give high process security and reliability. The shanks offer many types for short reach up to long reach applications. Straight necking and tapered necks to give the best combination of stability depending on the needs for your machining operation.

- XSE550, XSE720, XSE450, XHF580, XHF780 XVE540 and XVE510 for chamfer or radius type.
- XSB540, XSB720 and XVB510 for ball-nose type.
- XVC506, XVC509, XS5021, XS5061 and XVC512 for conical type.
- XHT740 for barrel type.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

### Tool selection X-Heads

|                             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                 |
|-----------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
|                             |    |    |    |    |    |    | Universal                       |
| Name                        | XSE550                                                                              | XSB540                                                                              | XSE720                                                                              | XSB720                                                                               | XSE450                                                                                | XHT740                                                                                | Steel and cast iron             |
| Page(s)                     | 3, 620                                                                              | 3, 637                                                                              | 3, 639                                                                              | 3, 645                                                                               | 3, 651                                                                                | 655                                                                                   | Stainless steel and S-materials |
| Family name                 | X-HEADS SOLID <sup>2</sup>                                                          | X-HEADS SOLID <sup>2</sup>                                                          | X-HEADS SOLID <sup>2</sup>                                                          | X-HEADS SOLID <sup>2</sup>                                                           | X-HEADS SOLID <sup>2</sup>                                                            | X-HEADS HSM/TORNADO                                                                   | Non ferrous                     |
| Type of mill                |    |    |    |    |    |    | Hard                            |
| Number of Flutes            | 3,4,5                                                                               | 4                                                                                   | 6                                                                                   | 6                                                                                    | 3                                                                                     | 4,6                                                                                   | Plastic and cfrp                |
| CSP                         |                                                                                     | ■                                                                                   |                                                                                     |                                                                                      |                                                                                       |                                                                                       | Graphite                        |
| Diameter range              | Metric<br>10-25<br>Inch<br>3/8-1                                                    | 10-16                                                                               | 10-25<br>3/8-1                                                                      | 10-20<br>3/8-1                                                                       | 10-20<br>3/8-1                                                                        | 10-16                                                                                 | X-Heads                         |
| Length availability         | 1,2                                                                                 | 1                                                                                   | 3                                                                                   | 3                                                                                    | 2                                                                                     | 2,3                                                                                   | Minimaster                      |
| Operation                   |  |                                                                                     |                                                                                     |                                                                                      |  |                                                                                       |                                 |
|                             |  |                                                                                     |  |  |  |  |                                 |
|                             |                                                                                     |  |                                                                                     |  |                                                                                       |  |                                 |
|                             |                                                                                     |                                                                                     |  |  |                                                                                       |                                                                                       |                                 |
|                             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                 |
| SMG                         |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                 |
| P1-8                        | ●                                                                                   | ●                                                                                   | ○                                                                                   | ○                                                                                    |                                                                                       | ○                                                                                     |                                 |
| P11-12                      | ●                                                                                   | ○                                                                                   | ●                                                                                   | ●                                                                                    |                                                                                       | ●                                                                                     |                                 |
| M1-3                        | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    |                                                                                       | ●                                                                                     |                                 |
| M4-5                        | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    |                                                                                       |                                                                                       |                                 |
| K1-7                        | ●                                                                                   | ●                                                                                   |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                 |
| S1-3                        | ●                                                                                   | ○                                                                                   | ●                                                                                   | ●                                                                                    |                                                                                       | ○                                                                                     |                                 |
| S11-13                      | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                    |                                                                                       | ●                                                                                     |                                 |
| H3 H5 H7 H8 H11 H12 H21 H31 | ●                                                                                   | ○                                                                                   |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                 |
| N1                          | ●                                                                                   | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                       |                                 |
| N2-3                        | ●                                                                                   | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                       |                                 |
| N11                         | ●                                                                                   | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                       |                                 |
| TS1                         | ●                                                                                   | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                       |                                 |
| TP1                         | ●                                                                                   | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                       |                                 |
| GR                          | ○                                                                                   | ○                                                                                   |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                 |

■ Stocked standard.

● Preferred choice, ○ Alternative choice

### Tool selection X-Heads

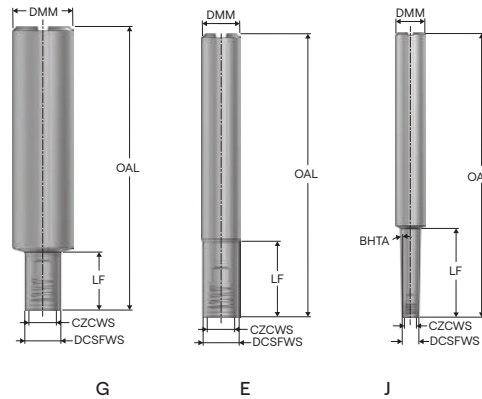
| Universal                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
|---------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                 |  |    |    |    |    |   |    |    |    |                                                                                     |
| Steel and cast iron             |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
|                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
| Stainless steel and S-materials |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
|                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
| Non ferrous                     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
|                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
| Hard                            |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
|                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
| Plastic and cfrp                |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
|                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
| Graphite                        |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
|                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
| X-Heads                         |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
|                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
| Minimaster                      |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
|                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
| Name                            |                                                                                   | XHF580                                                                              | XHF780                                                                              | XS5021                                                                              | XS5061                                                                              | XVE540                                                                              | XVE510                                                                                | XVB510                                                                                | XVC506/509/512                                                                        | XVK310                                                                              |
| Page(s)                         |                                                                                   | 658                                                                                 | 663                                                                                 | 669                                                                                 | 671                                                                                 | 680                                                                                 | 685                                                                                   | 688                                                                                   | 692                                                                                   | 696                                                                                 |
| Family name                     |                                                                                   | X-HEADS HFM                                                                         | X-HEADS HFM                                                                         | X-HEADS SOLID <sup>2</sup>                                                          | X-HEADS SOLID <sup>2</sup>                                                          | X-HEADS VHM                                                                         | X-HEADS VHM                                                                           | X-HEADS VHM                                                                           | X-HEADS VHM                                                                           | X-HEADS VHM                                                                         |
| Type of mill                    |                                                                                   |    |    |    |    |    |    |    |    |  |
| Number of Flutes                |                                                                                   | 4                                                                                   | 4                                                                                   | 2                                                                                   | 6                                                                                   | 3,4                                                                                 | 2                                                                                     | 2                                                                                     | 2                                                                                     | 4                                                                                   |
| CSP                             |                                                                                   |    |                                                                                     |                                                                                     |                                                                                     |    |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
| Diameter range                  | Metric                                                                            | 10-16                                                                               | 10-16                                                                               | 10-16                                                                               | 10-16                                                                               | 10-20                                                                               | 10-12                                                                                 | 10-16                                                                                 | 10-16                                                                                 | 12-20                                                                               |
|                                 | Inch                                                                              | 3/8-5/8                                                                             | 3/8-5/8                                                                             |                                                                                     |                                                                                     | 3/8-3/4                                                                             |                                                                                       | 3/8-5/8                                                                               |                                                                                       |                                                                                     |
| Length availability             |                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1                                                                                     | 1                                                                                     | 1                                                                                     | 1                                                                                   |
| Operation                       |                                                                                   |  |  |                                                                                     |                                                                                     |  |  |                                                                                       |                                                                                       |                                                                                     |
|                                 |                                                                                   |  |  |                                                                                     |                                                                                     |  |  |                                                                                       |                                                                                       |                                                                                     |
|                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |  |                                                                                       |                                                                                     |
|                                 |                                                                                   |                                                                                     |                                                                                     |  |  |                                                                                     |                                                                                       |  |  |                                                                                     |
| SMG                             |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                     |
| P1-8                            |                                                                                   | ●                                                                                   | ○                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                   |
| P11-12                          |                                                                                   | ●                                                                                   | ○                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                   |
| M1-3                            |                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                   |
| M4-5                            |                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                   |
| K1-7                            |                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                   |
| S1-3                            |                                                                                   | ○                                                                                   | ●                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     | ○                                                                                   |
| S11-13                          |                                                                                   | ○                                                                                   | ●                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     | ○                                                                                   |
| H3 H5 H7 H8 H11 H12 H21 H31     |                                                                                   | ○                                                                                   | ○                                                                                   | ●                                                                                   | ●                                                                                   | ○                                                                                   |                                                                                       |                                                                                       |                                                                                       | ○                                                                                   |
| N1                              |                                                                                   |                                                                                     |                                                                                     | ○                                                                                   | ○                                                                                   | ●                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     | ●                                                                                   |
| N2-3                            |                                                                                   |                                                                                     |                                                                                     | ○                                                                                   | ○                                                                                   | ●                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     | ●                                                                                   |
| N11                             |                                                                                   |                                                                                     |                                                                                     | ○                                                                                   | ○                                                                                   | ●                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     | ●                                                                                   |
| TS1                             |                                                                                   |                                                                                     |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                   |
| TP1                             |                                                                                   |                                                                                     |                                                                                     | ●                                                                                   | ●                                                                                   | ●                                                                                   | ●                                                                                     | ●                                                                                     | ●                                                                                     | ●                                                                                   |
| GR                              |                                                                                   |                                                                                     |                                                                                     | ○                                                                                   | ○                                                                                   | ○                                                                                   | ○                                                                                     | ○                                                                                     | ○                                                                                     | ○                                                                                   |

■ Stocked standard.

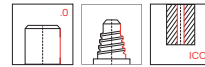
● Preferred choice, ○ Alternative choice



## Steel - Metric



—Tolerances:  
—DMM= h6  
—DCSFWS= ±0,05 mm  
—BHTA= ±20'



| Designation         | Item number | Length index | Tool shape | CZCWS | DCSFWS | DMM  | LF   | OAL   | BHTA° | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|-------|--------|------|------|-------|-------|-------------|----------------|
|                     |             |              |            |       | mm     | mm   | mm   | mm    |       |             |                |
| XE10160G1-065-00.0S | 10138083    | 1            | G          | E10   | 9,6    | 16,0 | 5,0  | 65,0  | 0,0   | Cylindrical | ■              |
| XE12160G1-065-00.0S | 10138084    | 1            | G          | E12   | 11,6   | 16,0 | 5,0  | 65,0  | 0,0   | Cylindrical | ■              |
| XE16200G1-070-00.0S | 10138085    | 1            | G          | E16   | 15,4   | 20,0 | 5,0  | 70,0  | 0,0   | Cylindrical | ■              |
| XE20250G1-080-00.0S | 10138086    | 1            | G          | E20   | 19,2   | 25,0 | 5,0  | 80,0  | 0,0   | Cylindrical | ■              |
| XE25320G1-080-00.0S | 10138087    | 1            | G          | E25   | 24,1   | 32,0 | 5,0  | 80,0  | 0,0   | Cylindrical | ■              |
| XE10100E2-055-00.0S | 10138092    | 2            | E          | E10   | 9,6    | 10,0 | 10,0 | 55,0  | 0,0   | Cylindrical | ■              |
| XE10100E2-075-00.0S | 10138093    | 2            | E          | E10   | 9,6    | 10,0 | 20,0 | 75,0  | 0,0   | Cylindrical | ■              |
| XE12120E2-065-00.0S | 10138094    | 2            | E          | E12   | 11,6   | 12,0 | 12,0 | 65,0  | 0,0   | Cylindrical | ■              |
| XE12120E2-100-00.0S | 10138095    | 2            | E          | E12   | 11,6   | 12,0 | 22,0 | 100,0 | 0,0   | Cylindrical | ■              |
| XE10160G2-075-00.0S | 10138088    | 2            | G          | E10   | 9,6    | 16,0 | 15,0 | 75,0  | 0,0   | Cylindrical | ■              |
| XE12160G2-080-00.0S | 10138089    | 2            | G          | E12   | 11,6   | 16,0 | 18,0 | 80,0  | 0,0   | Cylindrical | ■              |
| XE12160J2-140-05.0S | 10138107    | 2            | J          | E12   | 11,6   | 16,0 | 25,1 | 140,0 | 5,0   | Cylindrical | ■              |
| XE16160E2-070-00.0S | 10138096    | 2            | E          | E16   | 15,4   | 16,0 | 16,0 | 70,0  | 0,0   | Cylindrical | ■              |
| XE16200G2-090-00.0S | 10138090    | 2            | G          | E16   | 15,4   | 20,0 | 24,0 | 90,0  | 0,0   | Cylindrical | ■              |
| XE16200G2-110-00.0S | 10138091    | 2            | G          | E16   | 15,4   | 20,0 | 25,0 | 110,0 | 0,0   | Cylindrical | ■              |
| XE20200E2-120-00.0S | 10138097    | 2            | E          | E20   | 19,2   | 20,0 | 30,0 | 120,0 | 0,0   | Cylindrical | ■              |
| XE25250E2-140-00.0S | 10138098    | 2            | E          | E25   | 24,1   | 25,0 | 40,0 | 140,0 | 0,0   | Cylindrical | ■              |
| XE25320J2-200-05.0S | 10138112    | 2            | J          | E25   | 24,1   | 32,0 | 45,1 | 200,0 | 5,0   | Cylindrical | ■              |
| XE10160J3-120-01.0S | 10138099    | 3            | J          | E10   | 9,6    | 16,0 | 35,0 | 120,0 | 1,0   | Cylindrical | ■              |
| XE10160J3-140-05.0S | 10138106    | 3            | J          | E10   | 9,6    | 16,0 | 36,6 | 140,0 | 5,0   | Cylindrical | ■              |
| XE12160J3-155-01.0S | 10138101    | 3            | J          | E12   | 11,6   | 16,0 | 42,0 | 155,0 | 1,0   | Cylindrical | ■              |
| XE16200J3-190-01.0S | 10138103    | 3            | J          | E16   | 15,4   | 20,0 | 56,0 | 190,0 | 1,0   | Cylindrical | ■              |
| XE16250J3-170-05.0S | 10138110    | 3            | J          | E16   | 15,4   | 25,0 | 54,9 | 170,0 | 5,0   | Cylindrical | ■              |
| XE20320J3-180-05.0S | 10138111    | 3            | J          | E20   | 19,2   | 32,0 | 73,2 | 180,0 | 5,0   | Cylindrical | ■              |
| XE12200J4-155-05.0S | 10138109    | 4            | J          | E12   | 11,6   | 20,0 | 48,0 | 155,0 | 5,0   | Cylindrical | ■              |
| XE16200J4-190-01.0S | 10138104    | 4            | J          | E16   | 15,4   | 20,0 | 75,0 | 190,0 | 1,0   | Cylindrical | ■              |
| XE20250J4-200-01.0S | 10138105    | 4            | J          | E20   | 19,2   | 25,0 | 80,0 | 200,0 | 1,0   | Cylindrical | ■              |
| XE12320J4-250-10.0S | 10138114    | 4            | J          | E12   | 11,6   | 32,0 | 57,8 | 250,0 | 10,0  | Cylindrical | ■              |
| XE10160J5-160-01.0S | 10138100    | 5            | J          | E10   | 9,6    | 16,0 | 50,0 | 160,0 | 1,0   | Cylindrical | ■              |
| XE12160J5-170-01.0S | 10138102    | 5            | J          | E12   | 11,6   | 16,0 | 60,0 | 170,0 | 1,0   | Cylindrical | ■              |
| XE10200J5-140-05.0S | 10138108    | 5            | J          | E10   | 9,6    | 20,0 | 59,4 | 140,0 | 5,0   | Cylindrical | ■              |
| XE10320J6-250-10.0S | 10138113    | 6            | J          | E10   | 9,6    | 32,0 | 63,5 | 250,0 | 10,0  | Cylindrical | ■              |

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

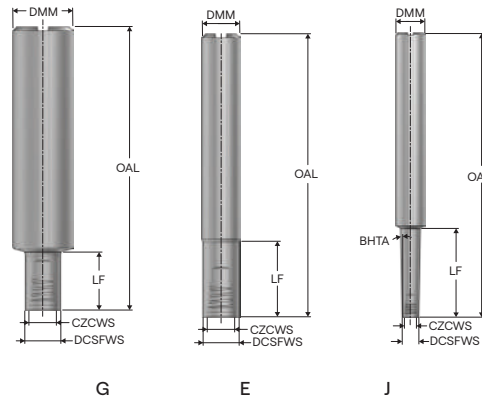
Graphite

X-Heads

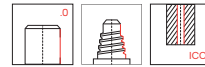
Minimaster

|                                 | Spare Parts, included in delivery |                                                                                   | Accessories                                                                       |                                                                                     |                                                                                     |
|---------------------------------|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                 | For cutter                        | Spanner                                                                           | Replacement blade                                                                 | Replacement blade 1                                                                 | Torque key                                                                          |
| Universal                       |                                   |  |  |  |  |
| Steel and cast iron             | E10                               | XW-E10                                                                            | XTWH-E10.08                                                                       | XTWH-E10.06                                                                         | XTW-E10.E12                                                                         |
|                                 | E12                               | XW-E12                                                                            | XTWH-E12.10                                                                       | XTWH-E12.08                                                                         | XTW-E10.E12                                                                         |
|                                 | E16                               | XW-E16                                                                            | XTWH-E16.12                                                                       | XTWH-E16.10                                                                         | XTW-E16.E25                                                                         |
|                                 | E20                               | XW-E20                                                                            | XTWH-E20.16                                                                       | –                                                                                   | XTW-E16.E25                                                                         |
|                                 | E25                               | XW-E25                                                                            | XTWH-E25.20                                                                       | –                                                                                   | XTW-E16.E25                                                                         |
| Stainless steel and S-materials | ■ Stocked standard.               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| Non ferrous                     |                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| Hard                            |                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| Plastic and cfrp                |                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| Graphite                        |                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| X-Heads                         |                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| Minimaster                      |                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |

## Steel - Inch



—Tolerances:  
—DMM= h6  
—DCSFWS= ±.002 inch  
—BHTA= ±20'



| Designation           | Item number | Length index | Tool shape | CZCWS | DCSFWS | DMM   | LF    | OAL   | BHTA° | Shank       | Stock standard |
|-----------------------|-------------|--------------|------------|-------|--------|-------|-------|-------|-------|-------------|----------------|
|                       |             |              |            |       | inch   | inch  | inch  | inch  |       |             |                |
| XE10.500G1-2.50-00.0S | 10138050    | 1            | G          | E10   | 0.360  | 0.500 | 0.250 | 2.500 | 0,0   | Cylindrical | ■              |
| XE12.500E1-3.00-00.0S | 10138054    | 1            | E          | E12   | 0.480  | 0.500 | 0.250 | 3.000 | 0,0   | Cylindrical | ■              |
| XE16.625E1-3.00-00.0S | 10138057    | 1            | E          | E16   | 0.606  | 0.625 | 0.250 | 3.000 | 0,0   | Cylindrical | ■              |
| XE20.750E1-3.00-00.0S | 10138060    | 1            | E          | E20   | 0.724  | 0.750 | 0.250 | 3.000 | 0,0   | Cylindrical | ■              |
| XE251.00E1-3.50-00.0S | 10138062    | 1            | E          | E25   | 0.961  | 1.000 | 0.250 | 3.500 | 0,0   | Cylindrical | ■              |
| XE10.375E2-3.00-00.0S | 10334248    | 2            | E          | E10   | 0.362  | 0.375 | 0.799 | 3.000 | 0,0   | Cylindrical | ■              |
| XE10.375E2-2.50-00.0S | 10138053    | 2            | E          | E10   | 0.360  | 0.375 | 0.402 | 2.500 | 0,0   | Cylindrical | ■              |
| XE10.500G2-3.00-00.0S | 10138051    | 2            | G          | E10   | 0.360  | 0.500 | 1.000 | 3.000 | 0,0   | Cylindrical | ■              |
| XE12.500E2-2.50-00.0S | 10138055    | 2            | E          | E12   | 0.480  | 0.500 | 0.500 | 2.500 | 0,0   | Cylindrical | ■              |
| XE12.500E2-4.50-00.0S | 10138056    | 2            | E          | E12   | 0.480  | 0.500 | 1.000 | 4.500 | 0,0   | Cylindrical | ■              |
| XE12.625J2-6.50-05.0S | 10138075    | 2            | J          | E12   | 0.480  | 0.625 | 0.827 | 6.500 | 5,0   | Cylindrical | ■              |
| XE16.625E2-3.00-00.0S | 10138058    | 2            | E          | E16   | 0.606  | 0.625 | 0.650 | 3.000 | 0,0   | Cylindrical | ■              |
| XE16.625E2-4.50-00.0S | 10138059    | 2            | E          | E16   | 0.606  | 0.625 | 1.000 | 4.500 | 0,0   | Cylindrical | ■              |
| XE16.750J2-6.50-05.0S | 10138076    | 2            | J          | E16   | 0.606  | 0.750 | 0.821 | 6.500 | 5,0   | Cylindrical | ■              |
| XE20.750E2-4.50-00.0S | 10138061    | 2            | E          | E20   | 0.724  | 0.750 | 1.000 | 4.500 | 0,0   | Cylindrical | ■              |
| XE201.00J2-6.00-05.0S | 10334251    | 2            | J          | E20   | 0.724  | 1.000 | 1.575 | 6.000 | 5,0   | Cylindrical | ■              |
| XE251.00E2-4.50-00.0S | 10218129    | 2            | E          | E25   | 0.961  | 1.000 | 1.500 | 4.500 | 0,0   | Cylindrical | ■              |
| XE251.25G2-6.50-00.0S | 10138052    | 2            | G          | E25   | 0.961  | 1.250 | 2.500 | 6.500 | 0,0   | Cylindrical | ■              |
| XE251.25J2-7.50-05.0S | 10218130    | 2            | J          | E25   | 0.961  | 1.250 | 1.654 | 7.500 | 5,0   | Cylindrical | ■              |
| XE10.625J3-4.50-01.0S | 10138063    | 3            | J          | E10   | 0.360  | 0.625 | 1.402 | 4.500 | 1,0   | Cylindrical | ■              |
| XE12.625J3-6.00-01.0S | 10138065    | 3            | J          | E12   | 0.480  | 0.625 | 1.650 | 6.000 | 1,0   | Cylindrical | ■              |
| XE16.750J3-7.50-01.0S | 10138068    | 3            | J          | E16   | 0.606  | 0.750 | 2.252 | 7.500 | 1,0   | Cylindrical | ■              |
| XE161.00J3-7.00-05.0S | 10138077    | 3            | J          | E16   | 0.606  | 1.000 | 2.250 | 7.000 | 5,0   | Cylindrical | ■              |
| XE10.625J4-5.50-05.0S | 10334250    | 4            | J          | E10   | 0.374  | 0.625 | 1.512 | 5.500 | 5,0   | Cylindrical | ■              |
| XE10.625J4-4.00-03.0S | 10138071    | 4            | J          | E10   | 0.360  | 0.625 | 1.799 | 4.000 | 3,0   | Cylindrical | ■              |
| XE12.625J4-7.50-01.0S | 10138066    | 4            | J          | E12   | 0.480  | 0.625 | 2.400 | 7.500 | 1,0   | Cylindrical | ■              |
| XE12.750J4-4.50-03.0S | 10138073    | 4            | J          | E12   | 0.480  | 0.750 | 2.201 | 4.500 | 3,0   | Cylindrical | ■              |
| XE16.750J4-7.50-01.0S | 10138070    | 4            | J          | E16   | 0.606  | 0.750 | 3.000 | 7.500 | 1,0   | Cylindrical | ■              |
| XE201.00J4-8.00-01.0S | 10334249    | 4            | J          | E20   | 0.724  | 1.000 | 3.150 | 8.000 | 1,0   | Cylindrical | ■              |
| XE10.625J5-6.50-01.0S | 10138064    | 5            | J          | E10   | 0.360  | 0.625 | 2.000 | 6.500 | 1,0   | Cylindrical | ■              |
| XE12.750J5-6.00-03.0S | 10138074    | 5            | J          | E12   | 0.480  | 0.750 | 2.575 | 6.000 | 3,0   | Cylindrical | ■              |
| XE12.750J5-6.50-01.0S | 10138067    | 5            | J          | E12   | 0.480  | 0.750 | 2.850 | 6.500 | 1,0   | Cylindrical | ■              |
| XE16.750J6-7.50-01.0S | 10138069    | 6            | J          | E16   | 0.606  | 0.750 | 3.748 | 7.500 | 1,0   | Cylindrical | ■              |
| XE10.750J9-6.00-03.0S | 10138072    | 9            | J          | E10   | 0.360  | 0.750 | 3.720 | 6.000 | 3,0   | Cylindrical | ■              |

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

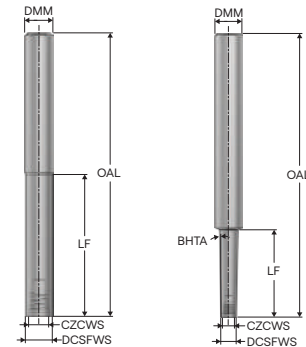
Graphite

X-Heads

Minimaster

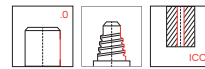
|                                 | Spare Parts, included in delivery |                                                                                   | Accessories                                                                       |                                                                                     |                                                                                     |
|---------------------------------|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                 | For cutter                        | Spanner                                                                           | Replacement blade                                                                 | Replacement blade 1                                                                 | Torque key                                                                          |
| Universal                       |                                   |  |  |  |  |
| Steel and cast iron             | E10                               | XW-E10                                                                            | XTWH-E10.08                                                                       | XTWH-E10.06                                                                         | XTW-E10.E12                                                                         |
|                                 | E12                               | XW-E12                                                                            | XTWH-E12.10                                                                       | XTWH-E12.08                                                                         | XTW-E10.E12                                                                         |
|                                 | E16                               | XW-E16                                                                            | XTWH-E16.12                                                                       | XTWH-E16.10                                                                         | XTW-E16.E25                                                                         |
|                                 | E20                               | XW-E20                                                                            | XTWH-E20.16                                                                       | –                                                                                   | XTW-E16.E25                                                                         |
|                                 | E25                               | XW-E25                                                                            | XTWH-E25.20                                                                       | –                                                                                   | XTW-E16.E25                                                                         |
| Stainless steel and S-materials | ■ Stocked standard.               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| Non ferrous                     |                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| Hard                            |                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| Plastic and cfrp                |                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| Graphite                        |                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| X-Heads                         |                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| Minimaster                      |                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |

## Solid carbide – Metric



E

J



—Tolerances:  
—DMM= h6  
—DCSFWS= ±0,05 mm  
—BHTA= ±20'

| Designation         | Item number | Length index | Tool shape | CZCWS | DCSFWS | DMM  | LF    | OAL   | BHTA° | Shank       | Stock standard |
|---------------------|-------------|--------------|------------|-------|--------|------|-------|-------|-------|-------------|----------------|
|                     |             |              |            |       | mm     | mm   | mm    | mm    |       |             |                |
| XE12160J2-165-05.0E | 10334240    | 2            | J          | E12   | 11,6   | 16,0 | 25,1  | 165,0 | 5,0   | Cylindrical | ■              |
| XE16200J2-165-05.0E | 10334241    | 2            | J          | E16   | 15,4   | 20,0 | 26,3  | 165,0 | 5,0   | Cylindrical | ■              |
| XE20200E2-095-00.0E | 10138123    | 2            | E          | E20   | 19,2   | 20,0 | 38,0  | 95,0  | 0,0   | Cylindrical | ■              |
| XE20250J2-150-05.0E | 10334242    | 2            | J          | E20   | 19,2   | 25,0 | 33,1  | 150,0 | 5,0   | Cylindrical | ■              |
| XE25320J2-190-05.0E | 10218127    | 2            | J          | E25   | 24,1   | 32,0 | 45,1  | 190,0 | 5,0   | Cylindrical | ■              |
| XE25320J2-215-05.0E | 10218128    | 2            | J          | E25   | 24,1   | 32,0 | 45,1  | 215,0 | 5,0   | Cylindrical | ■              |
| XE10120G3-095-00.0E | 10334223    | 3            | G          | E10   | 9,6    | 12,0 | 30,0  | 95,0  | 0,0   | Cylindrical | ■              |
| XE10160J3-140-05.0E | 10334239    | 3            | J          | E10   | 9,6    | 16,0 | 36,6  | 140,0 | 5,0   | Cylindrical | ■              |
| XE12160G3-107-00.0E | 10334226    | 3            | G          | E12   | 11,6   | 16,0 | 36,0  | 107,0 | 0,0   | Cylindrical | ■              |
| XE16160E3-126-00.0E | 10334229    | 3            | E          | E16   | 15,4   | 16,0 | 48,0  | 126,0 | 0,0   | Cylindrical | ■              |
| XE20320J3-175-05.0E | 10334243    | 3            | J          | E20   | 19,2   | 32,0 | 73,2  | 175,0 | 5,0   | Cylindrical | ■              |
| XE10120G4-105-00.0E | 10334224    | 4            | G          | E10   | 9,6    | 12,0 | 40,0  | 105,0 | 0,0   | Cylindrical | ■              |
| XE12120E4-100-00.0E | 10138121    | 4            | E          | E12   | 11,6   | 12,0 | 48,0  | 100,0 | 0,0   | Cylindrical | ■              |
| XE12160G4-120-00.0E | 10334227    | 4            | G          | E12   | 11,6   | 16,0 | 48,0  | 120,0 | 0,0   | Cylindrical | ■              |
| XE16160E4-140-00.0E | 10334230    | 4            | E          | E16   | 15,4   | 16,0 | 64,0  | 140,0 | 0,0   | Cylindrical | ■              |
| XE20250J4-200-02.0E | 10138129    | 4            | J          | E20   | 19,2   | 25,0 | 83,0  | 200,0 | 2,0   | Cylindrical | ■              |
| XE25250E4-200-00.0E | 10138125    | 4            | E          | E25   | 24,1   | 25,0 | 120,0 | 200,0 | 0,0   | Cylindrical | ■              |
| XE10100E5-100-00.0E | 10138120    | 5            | E          | E10   | 9,6    | 10,0 | 50,0  | 100,0 | 0,0   | Cylindrical | ■              |
| XE10120G5-125-00.0E | 10334225    | 5            | G          | E10   | 9,6    | 12,0 | 50,0  | 125,0 | 0,0   | Cylindrical | ■              |
| XE10160J5-120-01.0E | 10334232    | 5            | J          | E10   | 9,6    | 16,0 | 50,0  | 120,0 | 1,0   | Cylindrical | ■              |
| XE16160E5-135-00.0E | 10138122    | 5            | E          | E16   | 15,4   | 16,0 | 80,0  | 135,0 | 0,0   | Cylindrical | ■              |
| XE12160G5-150-00.0E | 10334228    | 5            | G          | E12   | 11,6   | 16,0 | 60,0  | 150,0 | 0,0   | Cylindrical | ■              |
| XE16200J5-135-01.0E | 10334235    | 5            | J          | E16   | 15,4   | 20,0 | 80,0  | 135,0 | 1,0   | Cylindrical | ■              |
| XE20200E5-180-00.0E | 10138124    | 5            | E          | E20   | 19,2   | 20,0 | 110,0 | 180,0 | 0,0   | Cylindrical | ■              |
| XE12160J7-150-01.0E | 10138127    | 7            | J          | E12   | 11,6   | 16,0 | 90,0  | 150,0 | 1,0   | Cylindrical | ■              |
| XE16200J7-175-01.0E | 10138128    | 7            | J          | E16   | 15,4   | 20,0 | 118,0 | 175,0 | 1,0   | Cylindrical | ■              |
| XE10160J8-150-01.0E | 10334233    | 8            | J          | E10   | 9,6    | 16,0 | 80,0  | 150,0 | 1,0   | Cylindrical | ■              |
| XE10160J9-155-01.0E | 10138126    | 9            | J          | E10   | 9,6    | 16,0 | 100,0 | 155,0 | 1,0   | Cylindrical | ■              |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

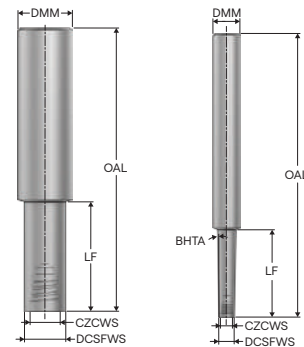
Minimaster

|                     | Spare Parts, included in delivery |                                                                                   | Accessories                                                                       |                                                                                     |                                                                                     |
|---------------------|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                     | For cutter                        | Spanner                                                                           | Replacement blade                                                                 | Replacement blade 1                                                                 | Torque key                                                                          |
| Universal           |                                   |  |  |  |  |
| Steel and cast iron | E10                               | XW-E10                                                                            | XTWH-E10.08                                                                       | XTWH-E10.06                                                                         | XTW-E10.E12                                                                         |
|                     | E12                               | XW-E12                                                                            | XTWH-E12.10                                                                       | XTWH-E12.08                                                                         | XTW-E10.E12                                                                         |
|                     | E16                               | XW-E16                                                                            | XTWH-E16.12                                                                       | XTWH-E16.10                                                                         | XTW-E16.E25                                                                         |
|                     | E20                               | XW-E20                                                                            | XTWH-E20.16                                                                       | –                                                                                   | XTW-E16.E25                                                                         |
|                     | E25                               | XW-E25                                                                            | XTWH-E25.20                                                                       | –                                                                                   | XTW-E16.E25                                                                         |

■ Stocked standard.

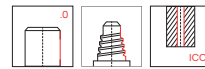
|                                 |
|---------------------------------|
| Stainless steel and S-materials |
| Non ferrous                     |
| Hard                            |
| Plastic and cfrp                |
| Graphite                        |
| X-Heads                         |
| Minimaster                      |

## Solid carbide – inch



G

J



—Tolerances:  
—DMM= h6  
—DCSFWS= ±.002 inch  
—BHTA= ±20°

| Designation           | Item number | Length index | Tool shape | CZCWS | DCSFWS | DMM   | LF    | OAL   | BHTA° | Shank       | Stock standard |
|-----------------------|-------------|--------------|------------|-------|--------|-------|-------|-------|-------|-------------|----------------|
|                       |             |              |            |       | inch   | inch  | inch  | inch  |       |             |                |
| XE12.625J2-6.50-05.0E | 10334245    | 2            | J          | E12   | 0.480  | 0.625 | 0.827 | 6.500 | 5,0   | Cylindrical | ■              |
| XE16.750J2-6.50-05.0E | 10334246    | 2            | J          | E16   | 0.606  | 0.750 | 0.823 | 6.500 | 5,0   | Cylindrical | ■              |
| XE201.00J2-6.00-05.0E | 10334247    | 2            | J          | E20   | 0.724  | 1.000 | 1.575 | 6.000 | 5,0   | Cylindrical | ■              |
| XE251.25G2-6.50-00.0E | 10138078    | 2            | G          | E25   | 0.961  | 1.250 | 2.500 | 6.500 | 0,0   | Cylindrical | ■              |
| XE251.25J2-8.50-05.0E | 10218131    | 2            | J          | E25   | 0.961  | 1.250 | 1.654 | 8.500 | 5,0   | Cylindrical | ■              |
| XE10.625J4-5.50-05.0E | 10334244    | 4            | J          | E10   | 0.360  | 0.625 | 1.512 | 5.500 | 5,0   | Cylindrical | ■              |
| XE12.625J4-7.50-01.0E | 10138080    | 4            | J          | E12   | 0.480  | 0.625 | 2.400 | 7.500 | 1,0   | Cylindrical | ■              |
| XE16.750J4-7.50-01.0E | 10138081    | 4            | J          | E16   | 0.606  | 0.750 | 3.000 | 7.500 | 1,0   | Cylindrical | ■              |
| XE201.00J4-8.00-01.0E | 10138082    | 4            | J          | E20   | 0.724  | 1.000 | 3.150 | 8.000 | 1,0   | Cylindrical | ■              |
| XE10.500G5-5.00-00.0E | 10334236    | 5            | G          | E10   | 0.360  | 0.500 | 2.000 | 5.000 | 0,0   | Cylindrical | ■              |
| XE10.625J5-6.50-01.0E | 10138079    | 5            | J          | E10   | 0.360  | 0.625 | 2.000 | 6.500 | 1,0   | Cylindrical | ■              |
| XE12.625G5-6.00-00.0E | 10334237    | 5            | G          | E12   | 0.480  | 0.625 | 2.400 | 6.000 | 0,0   | Cylindrical | ■              |
| XE16.625E5-7.00-00.0E | 10334238    | 5            | E          | E16   | 0.606  | 0.625 | 3.200 | 7.000 | 0,0   | Cylindrical | ■              |

## Spare Parts, included in delivery

## Accessories

| For cutter | Spanner                                                                             | Replacement blade                                                                   | Replacement blade 1                                                                   | Torque key                                                                            |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|            |  |  |  |  |
| E10        | XW-E10                                                                              | XTWH-E10.08                                                                         | XTWH-E10.06                                                                           | XTW-E10.E12                                                                           |
| E12        | XW-E12                                                                              | XTWH-E12.10                                                                         | XTWH-E12.08                                                                           | XTW-E10.E12                                                                           |
| E16        | XW-E16                                                                              | XTWH-E16.12                                                                         | XTWH-E16.10                                                                           | XTW-E16.E25                                                                           |
| E20        | XW-E20                                                                              | XTWH-E20.16                                                                         | —                                                                                     | XTW-E16.E25                                                                           |
| E25        | XW-E25                                                                              | XTWH-E25.20                                                                         | —                                                                                     | XTW-E16.E25                                                                           |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

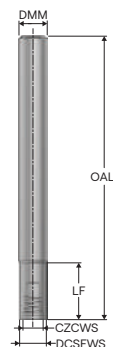
Plastic and cfrrp

Graphite

X-Heads

Minimaster

#### Densimet - Metric



E

—Tolerances:  
—DMM= h6  
—DCSFWS= ±0,05 mm  
—BHTA= ±20'



| Designation          | Item number | Length index | Tool shape | CZCWS | DCSFWS | DMM  | LF   | OAL   | BHTA° | Shank       | Stock standard |
|----------------------|-------------|--------------|------------|-------|--------|------|------|-------|-------|-------------|----------------|
|                      |             |              |            |       | mm     | mm   | mm   | mm    |       |             |                |
| XE10100E2-100-00.0DM | 10138115    | 2            | E          | E10   | 9,6    | 10,0 | 20,0 | 100,0 | 0,0   | Cylindrical | ■              |
| XE12120E2-110-00.0DM | 10138116    | 2            | E          | E12   | 11,6   | 12,0 | 25,0 | 110,0 | 0,0   | Cylindrical | ■              |
| XE16160E2-130-00.0DM | 10138117    | 2            | E          | E16   | 15,4   | 16,0 | 35,0 | 130,0 | 0,0   | Cylindrical | ■              |
| XE20200E2-160-00.0DM | 10138118    | 2            | E          | E20   | 19,2   | 20,0 | 45,0 | 160,0 | 0,0   | Cylindrical | ■              |
| XE25250E2-185-00.0DM | 10138119    | 2            | E          | E25   | 24,1   | 25,0 | 65,0 | 185,0 | 0,0   | Cylindrical | ■              |

#### Spare Parts, included in delivery

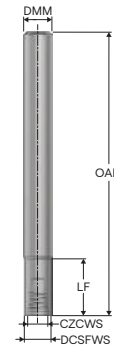
#### Accessories

| For cutter | Spanner                                                                             | Replacement blade                                                                   | Replacement blade 1                                                                   | Torque key                                                                            |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|            |  |  |  |  |
| E10        | XW-E10                                                                              | XTWH-E10.08                                                                         | XTWH-E10.06                                                                           | XTW-E10.E12                                                                           |
| E12        | XW-E12                                                                              | XTWH-E12.10                                                                         | XTWH-E12.08                                                                           | XTW-E10.E12                                                                           |
| E16        | XW-E16                                                                              | XTWH-E16.12                                                                         | XTWH-E16.10                                                                           | XTW-E16.E25                                                                           |
| E20        | XW-E20                                                                              | XTWH-E20.16                                                                         | —                                                                                     | XTW-E16.E25                                                                           |
| E25        | XW-E25                                                                              | XTWH-E25.20                                                                         | —                                                                                     | XTW-E16.E25                                                                           |

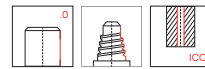
■ Stocked standard.



## Densimet - Inch



E



—Tolerances:  
—DMM= h6  
—DCSFWS=  $\pm 0.002$  Inch

| Designation            | Item number | Length index | Tool shape | CZCWS | DCSFWS | DMM   | LF    | OAL   | BHTA° | Shank       | Stock standard |
|------------------------|-------------|--------------|------------|-------|--------|-------|-------|-------|-------|-------------|----------------|
| XE251.00E2-7.28-00.0DM | 10218132    | 2            | E          | E25   | 0.961  | 1.000 | 2.559 | 7.283 | 0,0   | Cylindrical | ■              |

## Spare Parts, included in delivery

## Accessories

| For cutter | Spanner | Replacement blade | Torque key  |
|------------|---------|-------------------|-------------|
| E25        | XW-E25  | XTWH-E25.20       | XTW-E16.E25 |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

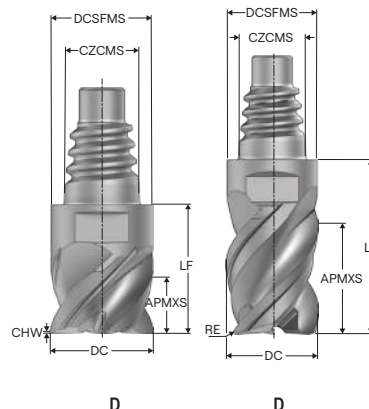
Graphite

X-Heads

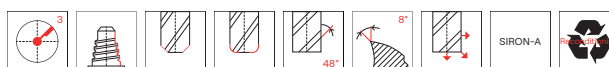
Minimaster

#### XSE550

High performance – Universal – Square – 3 Flutes – Corner radius or chamfer



—Tolerances:  
—DC= e7  
—RE= ±0,02 mm  
—Regrind possible if DC is ≥Ø12 mm

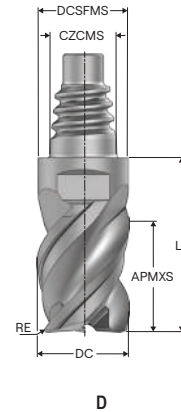


|                                 | Designation          | Item number | Length index | Tool shape | CZCMS | DC   | DCSFMS | APMXS | LF   | CHW    | RE  | PCEDC | SW   | Grade |
|---------------------------------|----------------------|-------------|--------------|------------|-------|------|--------|-------|------|--------|-----|-------|------|-------|
|                                 |                      |             |              |            |       | mm   | mm     | mm    | mm   | mm     | mm  |       |      | SIRA  |
| Universal                       | XSE550E10100D1R050Z3 | 10138138    | 1            | D          | E10   | 10,0 | 9,7    | 5,5   | 12,3 | —      | 0,5 | 3     | 8,0  | ■     |
|                                 | XSE550E10100D1R100Z3 | 10219210    | 1            | D          | E10   | 10,0 | 9,7    | 5,5   | 12,3 | —      | 1,0 | 3     | 8,0  | ■     |
| Steel and cast iron             | XSE550E10100D1R200Z3 | 10219211    | 1            | D          | E10   | 10,0 | 9,7    | 5,5   | 12,3 | —      | 2,0 | 3     | 8,0  | ■     |
|                                 | XSE550E10100D2R050Z3 | 10138142    | 2            | D          | E10   | 10,0 | 9,7    | 12,0  | 18,7 | —      | 0,5 | 3     | 8,0  | ■     |
| Stainless steel and S-materials | XSE550E10100D2R100Z3 | 10219218    | 2            | D          | E10   | 10,0 | 9,7    | 12,0  | 18,7 | —      | 1,0 | 3     | 8,0  | ■     |
|                                 | XSE550E10100D2R200Z3 | 10219219    | 2            | D          | E10   | 10,0 | 9,7    | 12,0  | 18,7 | —      | 2,0 | 3     | 8,0  | ■     |
| Non ferrous                     | XSE550E12120D1R050Z3 | 10138139    | 1            | D          | E12   | 12,0 | 11,7   | 6,6   | 14,4 | —      | 0,5 | 3     | 10,0 | ■     |
|                                 | XSE550E12120D1R100Z3 | 10219212    | 1            | D          | E12   | 12,0 | 11,7   | 6,6   | 14,4 | —      | 1,0 | 3     | 10,0 | ■     |
| Hard                            | XSE550E12120D1R200Z3 | 10219213    | 1            | D          | E12   | 12,0 | 11,7   | 6,6   | 14,4 | —      | 2,0 | 3     | 10,0 | ■     |
|                                 | XSE550E12120D2R050Z3 | 10138143    | 2            | D          | E12   | 12,0 | 11,7   | 14,4  | 22,1 | —      | 0,5 | 3     | 10,0 | ■     |
| Plastic and cfrp                | XSE550E12120D2R100Z3 | 10219220    | 2            | D          | E12   | 12,0 | 11,7   | 14,4  | 22,1 | —      | 1,0 | 3     | 10,0 | ■     |
|                                 | XSE550E12120D2R200Z3 | 10219221    | 2            | D          | E12   | 12,0 | 11,7   | 14,4  | 22,1 | —      | 2,0 | 3     | 10,0 | ■     |
| Graphite                        | XSE550E16160D1R050Z3 | 10138140    | 1            | D          | E16   | 16,0 | 15,5   | 8,8   | 18,6 | —      | 0,5 | 3     | 12,0 | ■     |
|                                 | XSE550E16160D1R100Z3 | 10219214    | 1            | D          | E16   | 16,0 | 15,5   | 8,8   | 18,6 | —      | 1,0 | 3     | 12,0 | ■     |
| X-Heads                         | XSE550E16160D1R200Z3 | 10219215    | 1            | D          | E16   | 16,0 | 15,5   | 8,8   | 18,6 | —      | 2,0 | 3     | 12,0 | ■     |
|                                 | XSE550E16160D2R050Z3 | 10138144    | 2            | D          | E16   | 16,0 | 15,5   | 19,2  | 29,2 | —      | 0,5 | 3     | 12,0 | ■     |
| Mini-master                     | XSE550E16160D2R100Z3 | 10219222    | 2            | D          | E16   | 16,0 | 15,5   | 19,2  | 29,2 | —      | 1,0 | 3     | 12,0 | ■     |
|                                 | XSE550E16160D2R200Z3 | 10219223    | 2            | D          | E16   | 16,0 | 15,5   | 19,2  | 29,2 | —      | 2,0 | 3     | 12,0 | ■     |
|                                 | XSE550E20200D1R050Z3 | 10138141    | 1            | D          | E20   | 20,0 | 19,3   | 11,0  | 21,2 | —      | 0,5 | 3     | 16,0 | ■     |
|                                 | XSE550E20200D2R050Z3 | 10138145    | 2            | D          | E20   | 20,0 | 19,3   | 24,0  | 34,3 | —      | 0,5 | 3     | 16,0 | ■     |
|                                 | XSE550E20200D1R100Z3 | 10219216    | 1            | D          | E20   | 20,0 | 19,7   | 11,0  | 21,2 | —      | 1,0 | 3     | 16,0 | ■     |
|                                 | XSE550E20200D1R200Z3 | 10219217    | 1            | D          | E20   | 20,0 | 19,7   | 11,0  | 21,2 | —      | 2,0 | 3     | 16,0 | ■     |
|                                 | XSE550E20200D2R100Z3 | 10219224    | 2            | D          | E20   | 20,0 | 19,7   | 24,0  | 34,3 | —      | 1,0 | 3     | 16,0 | ■     |
|                                 | XSE550E20200D2R200Z3 | 10219225    | 2            | D          | E20   | 20,0 | 19,7   | 24,0  | 34,3 | —      | 2,0 | 3     | 16,0 | ■     |
|                                 | XSE550E25250D1CZ3    | 10219207    | 1            | D          | E25   | 25,0 | 24,2   | 13,75 | 25,5 | 0,3125 | —   | 3     | 20,0 | ■     |
|                                 | XSE550E25250D1R050Z3 | 10219208    | 1            | D          | E25   | 25,0 | 24,2   | 13,75 | 25,5 | —      | 0,5 | 3     | 20,0 | ■     |
|                                 | XSE550E25250D1R100Z3 | 10219209    | 1            | D          | E25   | 25,0 | 24,2   | 13,75 | 25,5 | —      | 1,0 | 3     | 20,0 | ■     |

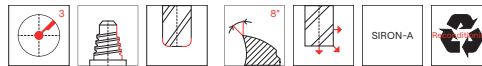
■ Stocked standard.

#### XSE550 – Inch

High performance – Universal – Square – 3 Flutes – Corner radius – Inch



- Tolerances:
- DC= e7
- RE= ±.0008 Inch
- Regrind possible if DC is ≥Ø.500 Inch



| Designation           | Item number | Length index | Tool shape | CZCMS | DC    | DCSFMS | APMXS | LF    | RE    | PCEDC | SW   | Grade |
|-----------------------|-------------|--------------|------------|-------|-------|--------|-------|-------|-------|-------|------|-------|
|                       |             |              |            |       | Inch  | Inch   | Inch  | Inch  | Inch  |       |      | SIRA  |
| XSE550E10.375D1R030Z3 | 10138146    | 1            | D          | E10   | 0.375 | 0.364  | 0.206 | 0.484 | 0.030 | 3     | 8,0  | ■     |
| XSE550E10.375D2R030Z3 | 10138149    | 2            | D          | E10   | 0.375 | 0.364  | 0.450 | 0.720 | 0.030 | 3     | 8,0  | ■     |
| XSE550E12.500D1R030Z3 | 10138147    | 1            | D          | E12   | 0.500 | 0.484  | 0.275 | 0.567 | 0.030 | 3     | 10,0 | ■     |
| XSE550E12.500D2R030Z3 | 10138150    | 2            | D          | E12   | 0.500 | 0.484  | 0.600 | 0.906 | 0.030 | 3     | 10,0 | ■     |
| XSE550E20.750D1R030Z3 | 10138148    | 1            | D          | E20   | 0.750 | 0.728  | 0.413 | 0.835 | 0.030 | 3     | 16,0 | ■     |
| XSE550E20.750D2R030Z3 | 10138151    | 2            | D          | E20   | 0.750 | 0.728  | 0.900 | 1.295 | 0.030 | 3     | 16,0 | ■     |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – XSE550 – Side milling PCEDC 3

|                                 | SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$           |                 |                 |                 |                 | $v_c$                                 |
|---------------------------------|-----|-----------------------------------------------------------------------------------|----------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|                                 |     |                                                                                   |                |              | 10              | 12              | 16              | 20              | 25              |                                       |
| Universal                       | P1  | E/M/A/D                                                                           | 0,40<br>0.40   | 1,1<br>1.1   | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 0,19<br>0.0075  | 185 (140 — 220)<br>610 (460 — 720)    |
|                                 | P2  | E/M/A/D                                                                           | 0,40<br>0.40   | 1,1<br>1.1   | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 0,17<br>0.0065  | 0,19<br>0.0075  | 175 (140 — 210)<br>570 (460 — 680)    |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,40<br>0.40   | 1,1<br>1.1   | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 0,18<br>0.0070  | 155 (120 — 190)<br>510 (400 — 620)    |
|                                 | P4  | E/M/A/D                                                                           | 0,40<br>0.40   | 1,1<br>1.1   | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 0,18<br>0.0070  | 135 (110 — 170)<br>445 (370 — 550)    |
|                                 | P5  | E/M/A/D                                                                           | 0,40<br>0.40   | 1,1<br>1.1   | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 0,17<br>0.0065  | 130 (98 — 160)<br>425 (330 — 520)     |
|                                 | P6  | E/M/A/D                                                                           | 0,40<br>0.40   | 1,1<br>1.1   | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 0,17<br>0.0065  | 145 (110 — 180)<br>475 (370 — 590)    |
|                                 | P7  | E/M/A/D                                                                           | 0,40<br>0.40   | 1,1<br>1.1   | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 0,17<br>0.0065  | 140 (110 — 170)<br>460 (370 — 550)    |
| Stainless steel and S-materials | P8  | E/M/A/D                                                                           | 0,40<br>0.40   | 1,1<br>1.1   | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 0,18<br>0.0070  | 130 (97 — 160)<br>425 (320 — 520)     |
|                                 | P11 | E/M/A/D                                                                           | 0,30<br>0.30   | 1,1<br>1.1   | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,12<br>0.0048  | 95 (80 — 100)<br>310 (270 — 320)      |
|                                 | P12 | E/M/A/D                                                                           | 0,30<br>0.30   | 1,1<br>1.1   | 0,044<br>0.0017 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,085<br>0.0034 | 60 (51 — 67)<br>195 (170 — 210)       |
|                                 | M1  | E/M/A                                                                             | 0,30<br>0.30   | 1,1<br>1.1   | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 0,12<br>0.0048  | 0,14<br>0.0055  | 105 (92 — 120)<br>345 (310 — 390)     |
|                                 | M2  | E/M/A                                                                             | 0,30<br>0.30   | 1,1<br>1.1   | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,13<br>0.0050  | 90 (76 — 100)<br>295 (250 — 320)      |
| Non ferrous                     | M3  | E/M/A                                                                             | 0,30<br>0.30   | 0,95<br>0.95 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,10<br>0.0040  | 55 (44 — 68)<br>180 (150 — 220)       |
|                                 | M4  | E/M/A                                                                             | 0,30<br>0.30   | 0,95<br>0.95 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,090<br>0.0036 | 43 (34 — 52)<br>140 (120 — 170)       |
|                                 | M5  | E/M/A                                                                             | 0,30<br>0.30   | 0,95<br>0.95 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,090<br>0.0036 | 36 (28 — 43)<br>120 (92 — 140)        |
|                                 | K1  | E/M/A/D                                                                           | 0,40<br>0.40   | 1,1<br>1.1   | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 0,18<br>0.0070  | 160 (140 — 180)<br>520 (460 — 590)    |
|                                 | K2  | E/M/A/D                                                                           | 0,40<br>0.40   | 1,1<br>1.1   | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 140 (130 — 160)<br>460 (430 — 520)    |
| Hard                            | K3  | E/M/A/D                                                                           | 0,40<br>0.40   | 1,1<br>1.1   | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 120 (110 — 130)<br>395 (370 — 420)    |
|                                 | K4  | E/M/A/D                                                                           | 0,40<br>0.40   | 1,1<br>1.1   | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 115 (97 — 120)<br>375 (320 — 390)     |
|                                 | K5  | E/M/A/D                                                                           | 0,40<br>0.40   | 0,95<br>0.95 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 140 (120 — 150)<br>460 (400 — 490)    |
|                                 | K6  | E/M/A/D                                                                           | 0,40<br>0.40   | 0,95<br>0.95 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 0,17<br>0.0065  | 200 (170 — 220)<br>660 (560 — 720)    |
|                                 | K7  | E/M/A/D                                                                           | 0,40<br>0.40   | 0,95<br>0.95 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 180 (150 — 200)<br>590 (500 — 650)    |
| Plastic and cfrp                | N1  | E/M/A                                                                             | 0,40<br>0.40   | 0,95<br>0.95 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 600 (560 — 780)<br>1975 (1900 — 2500) |
|                                 | N2  | E/M/A                                                                             | 0,40<br>0.40   | 0,95<br>0.95 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 390 (360 — 500)<br>1275 (1200 — 1600) |
|                                 | N3  | E/M/A                                                                             | 0,40<br>0.40   | 0,95<br>0.95 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 260 (240 — 330)<br>850 (790 — 1000)   |
|                                 | N11 | E/M/A                                                                             | 0,40<br>0.40   | 0,95<br>0.95 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 335 (280 — 380)<br>1100 (920 — 1200)  |
|                                 | S1  | E                                                                                 | 0,15<br>0.15   | 0,95<br>0.95 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 0,17<br>0.0065  | 32 (26 — 40)<br>105 (86 — 130)        |
| X-Heads                         | S2  | E                                                                                 | 0,15<br>0.15   | 0,95<br>0.95 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 0,17<br>0.0065  | 28 (21 — 34)<br>90 (69 — 110)         |
|                                 | S3  | E                                                                                 | 0,15<br>0.15   | 0,95<br>0.95 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 24 (19 — 30)<br>80 (63 — 98)          |
|                                 | S11 | E                                                                                 | 0,40<br>0.40   | 0,95<br>0.95 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 105 (77 — 130)<br>345 (260 — 420)     |
|                                 | S12 | E                                                                                 | 0,40<br>0.40   | 0,95<br>0.95 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 80 (59 — 100)<br>260 (200 — 320)      |
|                                 | S13 | E                                                                                 | 0,40<br>0.40   | 0,95<br>0.95 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,10<br>0.0040  | 65 (47 — 83)<br>215 (160 — 270)       |
| Minimaster                      | H5  | M/A                                                                               | 0,050<br>0.050 | 0,95<br>0.95 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 0,18<br>0.0070  | 75 (62 — 92)<br>245 (210 — 300)       |
|                                 | H8  | M/A                                                                               | 0,050<br>0.050 | 0,95<br>0.95 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,13<br>0.0050  | 80 (64 — 95)<br>260 (210 — 310)       |
|                                 | H21 | M/A                                                                               | 0,050<br>0.050 | 0,95<br>0.95 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,13<br>0.0050  | 80 (64 — 95)<br>260 (210 — 310)       |
|                                 | H31 | M/A                                                                               | 0,050<br>0.050 | 0,95<br>0.95 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 60 (50 — 74)<br>195 (170 — 240)       |
|                                 | TS1 | A/D                                                                               | 0,40<br>0.40   | 0,95<br>0.95 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 280 (170 — 390)<br>920 (560 — 1200)   |
|                                 | TP1 | A/D                                                                               | 0,40<br>0.40   | 0,95<br>0.95 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 280 (170 — 390)<br>920 (560 — 1200)   |
|                                 |     |                                                                                   |                |              |                 |                 |                 |                 |                 |                                       |

## Cutting data – XSE550 – Slot milling PCEDC 3

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 |                 | v <sub>c</sub>                        |                                 |
|-----|-----------------------------------------------------------------------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                    | 10              | 12              | 16              | 20              | 25              |                                       |                                 |
| P1  | E/M/A/D                                                                           | 1,0<br>1,0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,15<br>0.0060  | 165 (130 — 200)<br>540 (430 — 650)    | Universal                       |
| P2  | E/M/A/D                                                                           | 1,0<br>1,0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,15<br>0.0060  | 160 (120 — 190)<br>520 (400 — 620)    |                                 |
| P3  | E/M/A/D                                                                           | 1,0<br>1,0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,15<br>0.0060  | 135 (110 — 170)<br>445 (370 — 550)    | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 1,0<br>1,0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,15<br>0.0060  | 120 (90 — 140)<br>395 (300 — 450)     |                                 |
| P5  | E/M/A/D                                                                           | 1,0<br>1,0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,15<br>0.0060  | 115 (86 — 140)<br>375 (290 — 450)     |                                 |
| P6  | E/M/A/D                                                                           | 1,0<br>1,0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,15<br>0.0060  | 130 (97 — 160)<br>425 (320 — 520)     |                                 |
| P7  | E/M/A/D                                                                           | 1,0<br>1,0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,15<br>0.0060  | 120 (92 — 150)<br>395 (310 — 490)     | Stainless steel and S-materials |
| P8  | E/M/A/D                                                                           | 1,0<br>1,0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,15<br>0.0060  | 115 (86 — 140)<br>375 (290 — 450)     |                                 |
| P11 | E/M/A/D                                                                           | 0,80<br>0,80       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,11<br>0.0044  | 75 (64 — 84)<br>245 (210 — 270)       |                                 |
| P12 | E/M/A/D                                                                           | 0,80<br>0,80       | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,080<br>0.0032 | 45 (39 — 51)<br>150 (130 — 160)       |                                 |
| M1  | E/M/A                                                                             | 0,80<br>0,80       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 85 (75 — 99)<br>280 (250 — 320)       | Non ferrous                     |
| M2  | E/M/A                                                                             | 0,80<br>0,80       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,11<br>0.0044  | 70 (60 — 79)<br>230 (200 — 250)       |                                 |
| M3  | E/M/A                                                                             | 0,70<br>0,70       | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,095<br>0.0038 | 45 (35 — 54)<br>150 (120 — 170)       |                                 |
| M4  | E/M/A                                                                             | 0,70<br>0,70       | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,085<br>0.0034 | 34 (27 — 41)<br>110 (89 — 130)        |                                 |
| M5  | E/M/A                                                                             | 0,70<br>0,70       | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,085<br>0.0034 | 28 (22 — 34)<br>90 (73 — 110)         | Hard                            |
| K1  | E/M/A/D                                                                           | 1,0<br>1,0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,15<br>0.0060  | 140 (120 — 160)<br>460 (400 — 520)    |                                 |
| K2  | E/M/A/D                                                                           | 1,0<br>1,0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,15<br>0.0060  | 120 (110 — 130)<br>395 (370 — 420)    |                                 |
| K3  | E/M/A/D                                                                           | 1,0<br>1,0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,15<br>0.0060  | 105 (88 — 110)<br>345 (290 — 360)     |                                 |
| K4  | E/M/A/D                                                                           | 1,0<br>1,0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,15<br>0.0060  | 100 (84 — 110)<br>330 (280 — 360)     | Plastic and cf/np               |
| K5  | E/M/A/D                                                                           | 0,80<br>0,80       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 125 (100 — 130)<br>410 (330 — 420)    |                                 |
| K6  | E/M/A/D                                                                           | 0,80<br>0,80       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 185 (150 — 200)<br>610 (500 — 650)    |                                 |
| K7  | E/M/A/D                                                                           | 0,80<br>0,80       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 160 (130 — 170)<br>520 (430 — 550)    |                                 |
| N1  | E/M/A                                                                             | 0,70<br>0,70       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 540 (500 — 690)<br>1775 (1700 — 2200) | Graphite                        |
| N2  | E/M/A                                                                             | 0,70<br>0,70       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 345 (330 — 440)<br>1125 (1100 — 1400) |                                 |
| N3  | E/M/A                                                                             | 0,70<br>0,70       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 230 (220 — 290)<br>750 (730 — 950)    |                                 |
| N11 | E/M/A                                                                             | 0,60<br>0,60       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 300 (250 — 340)<br>980 (830 — 1100)   |                                 |
| S1  | E                                                                                 | 0,30<br>0,30       | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 27 (21 — 33)<br>90 (69 — 100)         | X-Heads                         |
| S2  | E                                                                                 | 0,30<br>0,30       | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 23 (17 — 28)<br>75 (56 — 91)          |                                 |
| S3  | E                                                                                 | 0,30<br>0,30       | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 20 (15 — 25)<br>65 (50 — 82)          |                                 |
| S11 | E                                                                                 | 0,50<br>0,50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,12<br>0.0048  | 90 (66 — 110)<br>295 (220 — 360)      |                                 |
| S12 | E                                                                                 | 0,50<br>0,50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,12<br>0.0048  | 70 (50 — 89)<br>230 (170 — 290)       | Minimaster                      |
| S13 | E                                                                                 | 0,50<br>0,50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 55 (39 — 69)<br>180 (130 — 220)       |                                 |
| H5  | M/A                                                                               | 0,30<br>0,30       | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 50 (41 — 60)<br>165 (140 — 190)       |                                 |
| H8  | M/A                                                                               | 0,30<br>0,30       | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,060<br>0.0024 | 50 (41 — 60)<br>165 (140 — 190)       |                                 |
| H21 | M/A                                                                               | 0,30<br>0,30       | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,060<br>0.0024 | 50 (41 — 60)<br>165 (140 — 190)       |                                 |
| H31 | M/A                                                                               | 0,30<br>0,30       | 0,026<br>0.0010 | 0,032<br>0.0013 | 0,038<br>0.0015 | 0,044<br>0.0017 | 0,050<br>0.0020 | 39 (32 — 46)<br>130 (110 — 150)       |                                 |
| TS1 | A/D                                                                               | 0,70<br>0,70       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 250 (150 — 340)<br>820 (500 — 1100)   |                                 |
| TP1 | A/D                                                                               | 0,70<br>0,70       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 250 (150 — 340)<br>820 (500 — 1100)   |                                 |

## Cutting data – XSE550 – Side milling PCEDC 3 – inch

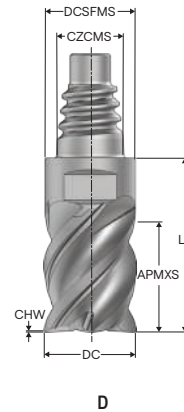
|                                 | SMG |  | a <sub>g</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 | v <sub>c</sub>                        |
|---------------------------------|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|                                 |     |                                                                                   |                    |                    | 3/8             | 1/2             | 5/8             | 3/4             |                                       |
| Universal                       | P1  | E/M/A/D                                                                           | 0,40<br>0.40       | 1,1<br>1.1         | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 215 (190 — 240)<br>710 (630 — 780)    |
|                                 | P2  | E/M/A/D                                                                           | 0,40<br>0.40       | 1,1<br>1.1         | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 0,17<br>0.0065  | 205 (180 — 230)<br>670 (600 — 750)    |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,40<br>0.40       | 1,1<br>1.1         | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 180 (160 — 200)<br>590 (530 — 650)    |
|                                 | P4  | E/M/A/D                                                                           | 0,40<br>0.40       | 1,1<br>1.1         | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 160 (140 — 180)<br>520 (460 — 590)    |
|                                 | P5  | E/M/A/D                                                                           | 0,40<br>0.40       | 1,1<br>1.1         | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 150 (140 — 170)<br>490 (460 — 550)    |
|                                 | P6  | E/M/A/D                                                                           | 0,40<br>0.40       | 1,1<br>1.1         | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 170 (150 — 190)<br>560 (500 — 620)    |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 0,40<br>0.40       | 1,1<br>1.1         | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 160 (140 — 180)<br>520 (460 — 590)    |
|                                 | P8  | E/M/A/D                                                                           | 0,40<br>0.40       | 1,1<br>1.1         | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 150 (130 — 170)<br>490 (430 — 550)    |
|                                 | P11 | E/M/A/D                                                                           | 0,30<br>0.30       | 1,1<br>1.1         | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 105 (93 — 110)<br>345 (310 — 360)     |
|                                 | P12 | E/M/A/D                                                                           | 0,30<br>0.30       | 1,1<br>1.1         | 0,044<br>0.0017 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,075<br>0.0030 | 65 (60 — 75)<br>215 (200 — 240)       |
| Non ferrous                     | M1  | E/M/A                                                                             | 0,30<br>0.30       | 1,1<br>1.1         | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 0,12<br>0.0048  | 120 (110 — 130)<br>395 (370 — 420)    |
|                                 | M2  | E/M/A                                                                             | 0,30<br>0.30       | 1,1<br>1.1         | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 100 (88 — 110)<br>330 (290 — 360)     |
|                                 | M3  | E/M/A                                                                             | 0,30<br>0.30       | 0,95<br>0.95       | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 60 (50 — 74)<br>195 (170 — 240)       |
|                                 | M4  | E/M/A                                                                             | 0,30<br>0.30       | 0,95<br>0.95       | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 48 (39 — 57)<br>155 (130 — 180)       |
|                                 | M5  | E/M/A                                                                             | 0,30<br>0.30       | 0,95<br>0.95       | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 40 (32 — 47)<br>130 (110 — 150)       |
| Hard                            | K1  | E/M/A/D                                                                           | 0,40<br>0.40       | 1,1<br>1.1         | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 170 (160 — 200)<br>560 (530 — 650)    |
|                                 | K2  | E/M/A/D                                                                           | 0,40<br>0.40       | 1,1<br>1.1         | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 150 (150 — 180)<br>490 (500 — 590)    |
| Plastic and cfrp                | K3  | E/M/A/D                                                                           | 0,40<br>0.40       | 1,1<br>1.1         | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 125 (120 — 150)<br>410 (400 — 490)    |
|                                 | K4  | E/M/A/D                                                                           | 0,40<br>0.40       | 1,1<br>1.1         | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 120 (120 — 140)<br>395 (400 — 450)    |
|                                 | K5  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 155 (140 — 170)<br>510 (460 — 550)    |
|                                 | K6  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 225 (200 — 250)<br>740 (660 — 820)    |
|                                 | K7  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 200 (180 — 220)<br>660 (600 — 720)    |
|                                 | N1  | E/M/A                                                                             | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 670 (560 — 780)<br>2200 (1900 — 2500) |
|                                 | N2  | E/M/A                                                                             | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 430 (360 — 500)<br>1400 (1200 — 1600) |
| Graphite                        | N3  | E/M/A                                                                             | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 285 (240 — 330)<br>940 (790 — 1000)   |
|                                 | N11 | E/M/A                                                                             | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 335 (280 — 380)<br>1100 (920 — 1200)  |
| X-Heads                         | S1  | E                                                                                 | 0,15<br>0.15       | 0,95<br>0.95       | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 43 (26 — 60)<br>140 (86 — 190)        |
|                                 | S2  | E                                                                                 | 0,15<br>0.15       | 0,95<br>0.95       | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 35 (21 — 48)<br>115 (69 — 150)        |
|                                 | S3  | E                                                                                 | 0,15<br>0.15       | 0,95<br>0.95       | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 30 (19 — 42)<br>100 (63 — 130)        |
|                                 | S11 | E                                                                                 | 0,40<br>0.40       | 0,95<br>0.95       | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 105 (77 — 130)<br>345 (260 — 420)     |
| Minimaster                      | S12 | E                                                                                 | 0,40<br>0.40       | 0,95<br>0.95       | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 80 (59 — 100)<br>260 (200 — 320)      |
|                                 | S13 | E                                                                                 | 0,40<br>0.40       | 0,95<br>0.95       | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 65 (47 — 83)<br>215 (160 — 270)       |
|                                 | H5  | M/A                                                                               | 0,050<br>0.050     | 0,95<br>0.95       | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 75 (62 — 92)<br>245 (210 — 300)       |
|                                 | H8  | M/A                                                                               | 0,050<br>0.050     | 0,95<br>0.95       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 80 (64 — 95)<br>260 (210 — 310)       |
|                                 | H21 | M/A                                                                               | 0,050<br>0.050     | 0,95<br>0.95       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 80 (64 — 95)<br>260 (210 — 310)       |
|                                 | H31 | M/A                                                                               | 0,050<br>0.050     | 0,95<br>0.95       | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 60 (50 — 74)<br>195 (170 — 240)       |
|                                 | TS1 | A/D                                                                               | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 280 (170 — 390)<br>920 (560 — 1200)   |
|                                 | TP1 | A/D                                                                               | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 280 (170 — 390)<br>920 (560 — 1200)   |

## Cutting data – XSE550 – Slot milling PCEDC 3 inch

| SMG |  | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 | v <sub>c</sub>                        |                                 |
|-----|-----------------------------------------------------------------------------------|--------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                    | 3/8             | 1/2             | 5/8             | 3/4             |                                       |                                 |
| P1  | E/M/A/D                                                                           | 1,0<br>1.0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 190 (170 – 210)<br>620 (560 – 680)    | Universal                       |
| P2  | E/M/A/D                                                                           | 1,0<br>1.0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 185 (160 – 210)<br>610 (530 – 680)    |                                 |
| P3  | E/M/A/D                                                                           | 1,0<br>1.0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 160 (140 – 180)<br>520 (460 – 590)    | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 1,0<br>1.0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 140 (120 – 150)<br>460 (400 – 490)    |                                 |
| P5  | E/M/A/D                                                                           | 1,0<br>1.0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 135 (120 – 150)<br>445 (400 – 490)    | Steel and stainless steel       |
| P6  | E/M/A/D                                                                           | 1,0<br>1.0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 150 (130 – 170)<br>490 (430 – 550)    |                                 |
| P7  | E/M/A/D                                                                           | 1,0<br>1.0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 140 (130 – 160)<br>460 (430 – 520)    | Stainless steel and S-materials |
| P8  | E/M/A/D                                                                           | 1,0<br>1.0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 135 (120 – 150)<br>445 (400 – 490)    |                                 |
| P11 | E/M/A/D                                                                           | 0,80<br>0.80       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 85 (74 – 94)<br>280 (250 – 300)       | Non ferrous                     |
| P12 | E/M/A/D                                                                           | 0,80<br>0.80       | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,070<br>0.0028 | 50 (46 – 58)<br>165 (160 – 190)       |                                 |
| M1  | E/M/A                                                                             | 0,80<br>0.80       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 100 (87 – 110)<br>330 (290 – 360)     | Hard                            |
| M2  | E/M/A                                                                             | 0,80<br>0.80       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 80 (70 – 89)<br>260 (230 – 290)       |                                 |
| M3  | E/M/A                                                                             | 0,70<br>0.70       | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 50 (41 – 60)<br>165 (140 – 190)       | Plastic and cf/np               |
| M4  | E/M/A                                                                             | 0,70<br>0.70       | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,075<br>0.0030 | 37 (30 – 45)<br>120 (99 – 140)        |                                 |
| M5  | E/M/A                                                                             | 0,70<br>0.70       | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,075<br>0.0030 | 31 (25 – 37)<br>100 (83 – 120)        | Graphite                        |
| K1  | E/M/A/D                                                                           | 1,0<br>1.0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 150 (140 – 180)<br>490 (460 – 590)    |                                 |
| K2  | E/M/A/D                                                                           | 1,0<br>1.0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 130 (130 – 150)<br>425 (430 – 490)    | X-Heads                         |
| K3  | E/M/A/D                                                                           | 1,0<br>1.0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 110 (110 – 130)<br>360 (370 – 420)    |                                 |
| K4  | E/M/A/D                                                                           | 1,0<br>1.0         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,12<br>0.0048  | 105 (99 – 120)<br>345 (330 – 390)     | Minimaster                      |
| K5  | E/M/A/D                                                                           | 0,80<br>0.80       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 140 (120 – 150)<br>460 (400 – 490)    |                                 |
| K6  | E/M/A/D                                                                           | 0,80<br>0.80       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 205 (180 – 230)<br>670 (600 – 750)    | X-Heads                         |
| K7  | E/M/A/D                                                                           | 0,80<br>0.80       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 180 (160 – 200)<br>590 (530 – 650)    |                                 |
| N1  | E/M/A                                                                             | 0,70<br>0.70       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 600 (510 – 690)<br>1975 (1700 – 2200) | Minimaster                      |
| N2  | E/M/A                                                                             | 0,70<br>0.70       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 385 (330 – 440)<br>1275 (1100 – 1400) |                                 |
| N3  | E/M/A                                                                             | 0,70<br>0.70       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 255 (220 – 290)<br>840 (730 – 950)    | X-Heads                         |
| N11 | E/M/A                                                                             | 0,60<br>0.60       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 300 (250 – 340)<br>980 (830 – 1100)   |                                 |
| S1  | E                                                                                 | 0,30<br>0.30       | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 36 (22 – 50)<br>120 (73 – 160)        | Minimaster                      |
| S2  | E                                                                                 | 0,30<br>0.30       | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 29 (18 – 40)<br>95 (60 – 130)         |                                 |
| S3  | E                                                                                 | 0,30<br>0.30       | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 25 (15 – 34)<br>80 (50 – 110)         | X-Heads                         |
| S11 | E                                                                                 | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 90 (66 – 110)<br>295 (220 – 360)      |                                 |
| S12 | E                                                                                 | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 70 (50 – 89)<br>230 (170 – 290)       | Minimaster                      |
| S13 | E                                                                                 | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 55 (39 – 69)<br>180 (130 – 220)       |                                 |
| H5  | M/A                                                                               | 0,30<br>0.30       | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 50 (41 – 60)<br>165 (140 – 190)       | X-Heads                         |
| H8  | M/A                                                                               | 0,30<br>0.30       | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,044<br>0.0017 | 0,050<br>0.0020 | 50 (41 – 60)<br>165 (140 – 190)       |                                 |
| H21 | M/A                                                                               | 0,30<br>0.30       | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,044<br>0.0017 | 0,050<br>0.0020 | 50 (41 – 60)<br>165 (140 – 190)       | Minimaster                      |
| H31 | M/A                                                                               | 0,30<br>0.30       | 0,026<br>0.0010 | 0,032<br>0.0013 | 0,038<br>0.0015 | 0,044<br>0.0017 | 39 (32 – 46)<br>130 (110 – 150)       |                                 |
| TS1 | A/D                                                                               | 0,70<br>0.70       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 250 (150 – 340)<br>820 (500 – 1100)   | X-Heads                         |
| TP1 | A/D                                                                               | 0,70<br>0.70       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 250 (150 – 340)<br>820 (500 – 1100)   |                                 |

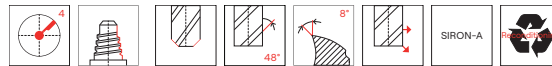
#### XSE550

High performance – Universal – Square – 4 Flutes – Chamfer



D

- Tolerances:
- DC= e7
- Regrind possible if DC is  $\geq \varnothing 12$  mm



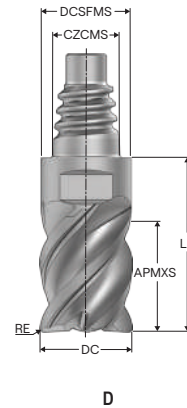
| Designation       | Item number | Length index | Tool shape | CZCMS | DC   | DCSFMS | APMXS | LF   | CHW    | PCEDC | SW   | Grade |
|-------------------|-------------|--------------|------------|-------|------|--------|-------|------|--------|-------|------|-------|
|                   |             |              |            |       | mm   | mm     | mm    | mm   | mm     |       |      | SIRA  |
| XSE550E10100D1CZ4 | 10219229    | 1            | D          | E10   | 10,0 | 9,7    | 5,5   | 12,3 | 0,125  | 4     | 8,0  | ■     |
| XSE550E10100D2CZ4 | 10138152    | 2            | D          | E10   | 10,0 | 9,7    | 12,0  | 18,7 | 0,125  | 4     | 8,0  | ■     |
| XSE550E12120D1CZ4 | 10219230    | 1            | D          | E12   | 12,0 | 11,7   | 6,6   | 14,4 | 0,15   | 4     | 10,0 | ■     |
| XSE550E12120D2CZ4 | 10138153    | 2            | D          | E12   | 12,0 | 11,7   | 14,4  | 22,1 | 0,15   | 4     | 10,0 | ■     |
| XSE550E16160D1CZ4 | 10219231    | 1            | D          | E16   | 16,0 | 15,5   | 8,8   | 18,6 | 0,2    | 4     | 12,0 | ■     |
| XSE550E16160D2CZ4 | 10138154    | 2            | D          | E16   | 16,0 | 15,5   | 19,2  | 29,2 | 0,2    | 4     | 12,0 | ■     |
| XSE550E20200D2CZ4 | 10138155    | 2            | D          | E20   | 20,0 | 19,3   | 24,0  | 34,3 | 0,25   | 4     | 16,0 | ■     |
| XSE550E20200D1CZ4 | 10219232    | 1            | D          | E20   | 20,0 | 19,7   | 11,0  | 21,2 | 0,25   | 4     | 16,0 | ■     |
| XSE550E25250D1CZ4 | 10219226    | 1            | D          | E25   | 25,0 | 24,2   | 13,75 | 25,5 | 0,3125 | 4     | 20,0 | ■     |

■ Stocked standard.

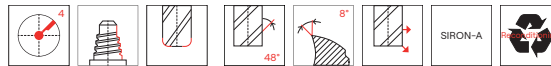


## XSE550

High performance – Universal – Square – 4 Flutes – Corner radius



- Tolerances:
- DC= e7
- RE=  $\pm 0,02$  mm
- Regrind possible if DC is  $\geq \varnothing 12$  mm



| Designation          | Item number | Length index | Tool shape | CZCMS | DC   | DCSFMS | APMXS | LF   | RE  | PCEDC | SW   | Grade |
|----------------------|-------------|--------------|------------|-------|------|--------|-------|------|-----|-------|------|-------|
|                      |             |              |            |       | mm   | mm     | mm    | mm   | mm  |       |      | SIRA  |
| XSE550E10100D1R100Z4 | 10219233    | 1            | D          | E10   | 10,0 | 9,7    | 5,5   | 12,3 | 1,0 | 4     | 8,0  | ■     |
| XSE550E10100D1R200Z4 | 10219234    | 1            | D          | E10   | 10,0 | 9,7    | 5,5   | 12,3 | 2,0 | 4     | 8,0  | ■     |
| XSE550E10100D1R050Z4 | 10138156    | 1            | D          | E10   | 10,0 | 9,7    | 5,5   | 12,3 | 0,5 | 4     | 8,0  | ■     |
| XSE550E10100D2R100Z4 | 10138161    | 2            | D          | E10   | 10,0 | 9,7    | 12,0  | 18,7 | 1,0 | 4     | 8,0  | ■     |
| XSE550E10100D2R050Z4 | 10138160    | 2            | D          | E10   | 10,0 | 9,7    | 12,0  | 18,7 | 0,5 | 4     | 8,0  | ■     |
| XSE550E10100D2R200Z4 | 10138162    | 2            | D          | E10   | 10,0 | 9,7    | 12,0  | 18,7 | 2,0 | 4     | 8,0  | ■     |
| XSE550E10100D2R250Z4 | 10138163    | 2            | D          | E10   | 10,0 | 9,7    | 12,0  | 18,7 | 2,5 | 4     | 8,0  | ■     |
| XSE550E12120D1R100Z4 | 10219235    | 1            | D          | E12   | 12,0 | 11,7   | 6,6   | 14,4 | 1,0 | 4     | 10,0 | ■     |
| XSE550E12120D1R200Z4 | 10219236    | 1            | D          | E12   | 12,0 | 11,7   | 6,6   | 14,4 | 2,0 | 4     | 10,0 | ■     |
| XSE550E12120D1R050Z4 | 10138157    | 1            | D          | E12   | 12,0 | 11,7   | 6,6   | 14,4 | 0,5 | 4     | 10,0 | ■     |
| XSE550E12120D2R100Z4 | 10138165    | 2            | D          | E12   | 12,0 | 11,7   | 14,4  | 22,1 | 1,0 | 4     | 10,0 | ■     |
| XSE550E12120D2R050Z4 | 10138164    | 2            | D          | E12   | 12,0 | 11,7   | 14,4  | 22,1 | 0,5 | 4     | 10,0 | ■     |
| XSE550E12120D2R200Z4 | 10138166    | 2            | D          | E12   | 12,0 | 11,7   | 14,4  | 22,1 | 2,0 | 4     | 10,0 | ■     |
| XSE550E12120D2R300Z4 | 10138167    | 2            | D          | E12   | 12,0 | 11,7   | 14,4  | 22,1 | 3,0 | 4     | 10,0 | ■     |
| XSE550E16160D1R100Z4 | 10219237    | 1            | D          | E16   | 16,0 | 15,5   | 8,8   | 18,6 | 1,0 | 4     | 12,0 | ■     |
| XSE550E16160D1R200Z4 | 10219238    | 1            | D          | E16   | 16,0 | 15,5   | 8,8   | 18,6 | 2,0 | 4     | 12,0 | ■     |
| XSE550E16160D1R050Z4 | 10138158    | 1            | D          | E16   | 16,0 | 15,5   | 8,8   | 18,6 | 0,5 | 4     | 12,0 | ■     |
| XSE550E16160D2R100Z4 | 10138169    | 2            | D          | E16   | 16,0 | 15,5   | 19,2  | 29,2 | 1,0 | 4     | 12,0 | ■     |
| XSE550E16160D2R050Z4 | 10138168    | 2            | D          | E16   | 16,0 | 15,5   | 19,2  | 29,2 | 0,5 | 4     | 12,0 | ■     |
| XSE550E16160D2R200Z4 | 10138170    | 2            | D          | E16   | 16,0 | 15,5   | 19,2  | 29,2 | 2,0 | 4     | 12,0 | ■     |
| XSE550E16160D2R300Z4 | 10138171    | 2            | D          | E16   | 16,0 | 15,5   | 19,2  | 29,2 | 3,0 | 4     | 12,0 | ■     |
| XSE550E20200D1R100Z4 | 10138159    | 1            | D          | E20   | 20,0 | 19,3   | 11,0  | 21,2 | 1,0 | 4     | 16,0 | ■     |
| XSE550E20200D2R100Z4 | 10138172    | 2            | D          | E20   | 20,0 | 19,3   | 24,0  | 34,3 | 1,0 | 4     | 16,0 | ■     |
| XSE550E20200D2R200Z4 | 10138173    | 2            | D          | E20   | 20,0 | 19,3   | 24,0  | 34,3 | 2,0 | 4     | 16,0 | ■     |
| XSE550E20200D2R300Z4 | 10138174    | 2            | D          | E20   | 20,0 | 19,3   | 24,0  | 34,3 | 3,0 | 4     | 16,0 | ■     |
| XSE550E20200D2R400Z4 | 10138175    | 2            | D          | E20   | 20,0 | 19,3   | 24,0  | 34,3 | 4,0 | 4     | 16,0 | ■     |
| XSE550E20200D1R200Z4 | 10219239    | 1            | D          | E20   | 20,0 | 19,7   | 11,0  | 21,2 | 2,0 | 4     | 16,0 | ■     |
| XSE550E25250D1R100Z4 | 10219227    | 1            | D          | E25   | 25,0 | 24,2   | 13,75 | 25,5 | 1,0 | 4     | 20,0 | ■     |
| XSE550E25250D1R200Z4 | 10219228    | 1            | D          | E25   | 25,0 | 24,2   | 13,75 | 25,5 | 2,0 | 4     | 20,0 | ■     |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfcp

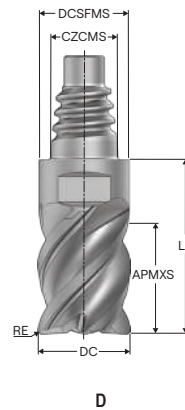
Graphite

X-Heads

Minimaster

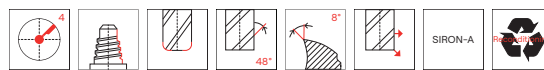
#### XSE550 – Inch

High performance – Universal – Square – 4 Flutes – Corner radius – Inch



D

- Tolerances:
- DC= e7
- RE= ±.0008 Inch
- Regrind possible if DC is ≥Ø.500 Inch



| Designation           | Item number | Length index | Tool shape | CZCMS | DC    | DCSFMS | APMXS | LF    | RE    | PCEDC | SW   | Grade |
|-----------------------|-------------|--------------|------------|-------|-------|--------|-------|-------|-------|-------|------|-------|
|                       |             |              |            |       | Inch  | Inch   | Inch  | Inch  | Inch  |       |      | SIRA  |
| XSE550E10.375D1R030Z4 | 10138176    | 1            | D          | E10   | 0.375 | 0.364  | 0.206 | 0.484 | 0.030 | 4     | 8,0  | ■     |
| XSE550E10.375D2R030Z4 | 10138179    | 2            | D          | E10   | 0.375 | 0.364  | 0.450 | 0.720 | 0.030 | 4     | 8,0  | ■     |
| XSE550E12.500D1R030Z4 | 10138177    | 1            | D          | E12   | 0.500 | 0.484  | 0.275 | 0.567 | 0.030 | 4     | 10,0 | ■     |
| XSE550E12.500D2R030Z4 | 10138180    | 2            | D          | E12   | 0.500 | 0.484  | 0.600 | 0.906 | 0.030 | 4     | 10,0 | ■     |
| XSE550E20.750D1R030Z4 | 10138178    | 1            | D          | E20   | 0.750 | 0.728  | 0.413 | 0.835 | 0.030 | 4     | 16,0 | ■     |
| XSE550E20.750D2R030Z4 | 10138181    | 2            | D          | E20   | 0.750 | 0.728  | 0.900 | 1.295 | 0.030 | 4     | 16,0 | ■     |

■ Stocked standard.

**Cutting data – XSE550 – Side milling PCEDC 4**

| SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$           |                 |                 |                 |                 | $v_c$                                 |                                 |
|-----|-----------------------------------------------------------------------------------|----------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                |              | 10              | 12              | 16              | 20              | 25              |                                       |                                 |
| P1  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,085<br>0,0034 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,17<br>0,0065  | 170 (130 — 210)<br>560 (430 — 680)    | Universal                       |
| P2  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,090<br>0,0036 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,17<br>0,0065  | 165 (130 — 200)<br>540 (430 — 650)    |                                 |
| P3  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,085<br>0,0034 | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 145 (110 — 180)<br>475 (370 — 590)    | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 130 (97 — 160)<br>425 (320 — 520)     |                                 |
| P5  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,15<br>0,0060  | 125 (93 — 150)<br>410 (310 — 490)     | Stainless steel and S-materials |
| P6  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,13<br>0,0050  | 0,15<br>0,0060  | 140 (110 — 170)<br>460 (370 — 550)    |                                 |
| P7  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,13<br>0,0050  | 0,15<br>0,0060  | 130 (98 — 160)<br>425 (330 — 520)     | Non ferrous                     |
| P8  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,085<br>0,0034 | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 120 (91 — 150)<br>395 (300 — 490)     |                                 |
| P11 | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,12<br>0,0048  | 85 (72 — 100)<br>280 (240 — 320)      | Hard                            |
| P12 | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,044<br>0,0017 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,085<br>0,0034 | 55 (46 — 68)<br>180 (160 — 220)       |                                 |
| M1  | E/M/A                                                                             | 0,30<br>0,30   | 0,95<br>0,95 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,11<br>0,0044  | 0,12<br>0,0048  | 0,14<br>0,0055  | 95 (83 — 120)<br>310 (280 — 390)      | Plastic and cf/p                |
| M2  | E/M/A                                                                             | 0,30<br>0,30   | 0,95<br>0,95 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,13<br>0,0050  | 80 (69 — 100)<br>260 (230 — 320)      |                                 |
| M3  | E/M/A                                                                             | 0,30<br>0,30   | 0,95<br>0,95 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,090<br>0,0036 | 0,10<br>0,0040  | 47 (36 — 58)<br>155 (120 — 190)       | Graphite                        |
| M4  | E/M/A                                                                             | 0,30<br>0,30   | 0,95<br>0,95 | 0,048<br>0,0019 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,080<br>0,0032 | 0,090<br>0,0036 | 36 (28 — 45)<br>120 (92 — 140)        |                                 |
| M5  | E/M/A                                                                             | 0,30<br>0,30   | 0,95<br>0,95 | 0,048<br>0,0019 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,080<br>0,0032 | 0,090<br>0,0036 | 30 (23 — 37)<br>100 (76 — 120)        | X-Heads                         |
| K1  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 150 (130 — 170)<br>490 (430 — 550)    |                                 |
| K2  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,14<br>0,0055  | 130 (120 — 150)<br>425 (400 — 490)    | Minimaster                      |
| K3  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,14<br>0,0055  | 110 (96 — 120)<br>360 (320 — 390)     |                                 |
| K4  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,14<br>0,0055  | 105 (92 — 120)<br>345 (310 — 390)     | Universal                       |
| K5  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 150 (130 — 170)<br>490 (430 — 550)    |                                 |
| K6  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,17<br>0,0065  | 215 (190 — 240)<br>710 (630 — 780)    | X-Heads                         |
| K7  | E/M/A/D                                                                           | 0,40<br>0,40   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 190 (170 — 210)<br>620 (560 — 680)    |                                 |
| N1  | E/M/A                                                                             | 0,40<br>0,40   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 550 (450 — 660)<br>1800 (1500 — 2100) | Graphite                        |
| N2  | E/M/A                                                                             | 0,40<br>0,40   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 355 (290 — 420)<br>1175 (960 — 1300)  |                                 |
| N3  | E/M/A                                                                             | 0,40<br>0,40   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 240 (200 — 280)<br>790 (660 — 910)    | X-Heads                         |
| N11 | E/M/A                                                                             | 0,40<br>0,40   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 310 (280 — 380)<br>1025 (920 — 1200)  |                                 |
| S1  | E                                                                                 | 0,15<br>0,15   | 0,95<br>0,95 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,17<br>0,0065  | 32 (26 — 40)<br>105 (86 — 130)        | Minimaster                      |
| S2  | E                                                                                 | 0,15<br>0,15   | 0,95<br>0,95 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,17<br>0,0065  | 28 (21 — 34)<br>90 (69 — 110)         |                                 |
| S3  | E                                                                                 | 0,15<br>0,15   | 0,95<br>0,95 | 0,085<br>0,0034 | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 24 (19 — 30)<br>80 (63 — 98)          | Universal                       |
| S11 | E                                                                                 | 0,40<br>0,40   | 0,95<br>0,95 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,090<br>0,0036 | 0,10<br>0,0040  | 0,12<br>0,0048  | 90 (77 — 120)<br>295 (260 — 390)      |                                 |
| S12 | E                                                                                 | 0,40<br>0,40   | 0,95<br>0,95 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,090<br>0,0036 | 0,10<br>0,0040  | 0,12<br>0,0048  | 70 (59 — 93)<br>230 (200 — 300)       | Minimaster                      |
| S13 | E                                                                                 | 0,40<br>0,40   | 0,95<br>0,95 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,090<br>0,0036 | 0,10<br>0,0040  | 55 (47 — 74)<br>180 (160 — 240)       |                                 |
| H5  | M/A                                                                               | 0,050<br>0,050 | 0,95<br>0,95 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,17<br>0,0065  | 75 (59 — 73)<br>245 (200 — 230)       | Universal                       |
| H8  | M/A                                                                               | 0,050<br>0,050 | 0,95<br>0,95 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,13<br>0,0050  | 75 (62 — 76)<br>245 (210 — 240)       |                                 |
| H21 | M/A                                                                               | 0,050<br>0,050 | 0,95<br>0,95 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,13<br>0,0050  | 75 (62 — 76)<br>245 (210 — 240)       | X-Heads                         |
| H31 | M/A                                                                               | 0,050<br>0,050 | 0,95<br>0,95 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,090<br>0,0036 | 0,10<br>0,0040  | 0,12<br>0,0048  | 60 (48 — 59)<br>195 (160 — 190)       |                                 |
| TS1 | A/D                                                                               | 0,40<br>0,40   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 275 (170 — 380)<br>900 (560 — 1200)   | Universal                       |
| TP1 | A/D                                                                               | 0,40<br>0,40   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 275 (170 — 380)<br>900 (560 — 1200)   |                                 |

#### Cutting data – XSE550 – Slot milling PCEDC 4

|                                 | SMG |  | $a_p/DC$     | $f_z$           |                 |                 |                 |                 | $v_c$                                 |
|---------------------------------|-----|-----------------------------------------------------------------------------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|                                 |     |                                                                                   |              | 10              | 12              | 16              | 20              | 25              |                                       |
| Universal                       | P1  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 165 (130 — 200)<br>540 (430 — 650)    |
|                                 | P2  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 160 (120 — 190)<br>520 (400 — 620)    |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 135 (110 — 170)<br>445 (370 — 550)    |
|                                 | P4  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 120 (90 — 140)<br>395 (300 — 450)     |
|                                 | P5  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 115 (86 — 140)<br>375 (290 — 450)     |
|                                 | P6  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 130 (97 — 160)<br>425 (320 — 520)     |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 120 (92 — 150)<br>395 (310 — 490)     |
|                                 | P8  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 115 (86 — 140)<br>375 (290 — 450)     |
|                                 | P11 | E/M/A/D                                                                           | 0,60<br>0.60 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 75 (64 — 94)<br>245 (210 — 300)       |
|                                 | P12 | E/M/A/D                                                                           | 0,60<br>0.60 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 44 (38 — 55)<br>145 (130 — 180)       |
| Non ferrous                     | M1  | E/M/A                                                                             | 0,60<br>0.60 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 85 (75 — 110)<br>280 (250 — 360)      |
|                                 | M2  | E/M/A                                                                             | 0,60<br>0.60 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 70 (60 — 90)<br>230 (200 — 290)       |
|                                 | M3  | E/M/A                                                                             | 0,60<br>0.60 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 40 (30 — 50)<br>130 (99 — 160)        |
|                                 | M4  | E/M/A                                                                             | 0,60<br>0.60 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 30 (23 — 37)<br>100 (76 — 120)        |
|                                 | M5  | E/M/A                                                                             | 0,60<br>0.60 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 25 (19 — 31)<br>80 (63 — 100)         |
| Hard                            | K1  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 140 (120 — 160)<br>460 (400 — 520)    |
|                                 | K2  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 120 (110 — 130)<br>395 (370 — 420)    |
| Plastic and cfrp                | K3  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 105 (88 — 110)<br>345 (290 — 360)     |
|                                 | K4  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 100 (84 — 110)<br>330 (280 — 360)     |
|                                 | K5  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 140 (120 — 160)<br>460 (400 — 520)    |
|                                 | K6  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 205 (180 — 230)<br>670 (600 — 750)    |
|                                 | K7  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  | 180 (160 — 200)<br>590 (530 — 650)    |
| Graphite                        | N1  | E/M/A                                                                             | 0,60<br>0.60 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 500 (410 — 590)<br>1650 (1400 — 1900) |
|                                 | N2  | E/M/A                                                                             | 0,60<br>0.60 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 320 (260 — 380)<br>1050 (860 — 1200)  |
|                                 | N3  | E/M/A                                                                             | 0,60<br>0.60 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 215 (180 — 250)<br>710 (600 — 820)    |
|                                 | N11 | E/M/A                                                                             | 0,60<br>0.60 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 280 (250 — 340)<br>920 (830 — 1100)   |
| X-Heads                         | S1  | E                                                                                 | 0,30<br>0.30 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 27 (21 — 33)<br>90 (69 — 100)         |
|                                 | S2  | E                                                                                 | 0,30<br>0.30 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 23 (17 — 28)<br>75 (56 — 91)          |
|                                 | S3  | E                                                                                 | 0,30<br>0.30 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,075<br>0.0030 | 20 (15 — 24)<br>65 (50 — 78)          |
|                                 | S11 | E                                                                                 | 0,50<br>0.50 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,12<br>0.0048  | 80 (65 — 100)<br>260 (220 — 320)      |
| Minimaster                      | S12 | E                                                                                 | 0,50<br>0.50 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,12<br>0.0048  | 60 (50 — 79)<br>195 (170 — 250)       |
|                                 | S13 | E                                                                                 | 0,50<br>0.50 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 46 (39 — 61)<br>150 (130 — 200)       |
|                                 | H5  | M/A                                                                               | 0,26<br>0.26 | 0,025<br>0.0010 | 0,030<br>0.0012 | 0,040<br>0.0016 | 0,050<br>0.0020 | 0,065<br>0.0026 | 50 (41 — 50)<br>165 (140 — 160)       |
|                                 | H8  | M/A                                                                               | 0,26<br>0.26 | 0,025<br>0.0010 | 0,030<br>0.0012 | 0,040<br>0.0016 | 0,050<br>0.0020 | 0,060<br>0.0024 | 50 (41 — 50)<br>165 (140 — 160)       |
|                                 | H21 | M/A                                                                               | 0,26<br>0.26 | 0,025<br>0.0010 | 0,030<br>0.0012 | 0,040<br>0.0016 | 0,050<br>0.0020 | 0,060<br>0.0024 | 50 (41 — 50)<br>165 (140 — 160)       |
|                                 | H31 | M/A                                                                               | 0,26<br>0.26 | 0,025<br>0.0010 | 0,030<br>0.0012 | 0,038<br>0.0015 | 0,044<br>0.0017 | 0,050<br>0.0020 | 38 (31 — 38)<br>125 (110 — 120)       |
|                                 | TS1 | A/D                                                                               | 0,60<br>0.60 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 250 (150 — 340)<br>820 (500 — 1100)   |
|                                 | TP1 | A/D                                                                               | 0,60<br>0.60 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  | 250 (150 — 340)<br>820 (500 — 1100)   |

## Cutting data – XSE550 – Side milling PCEDC 4 inch

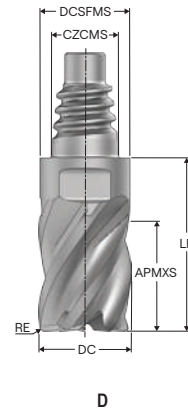
| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 | v <sub>c</sub>                        |                                 |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                    |                    | 3/8             | 1/2             | 5/8             | 3/4             |                                       |                                 |
| P1  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,13<br>0.0050  | 0,15<br>0.0060  | 200 (180 — 220)<br>660 (600 — 720)    | Universal                       |
| P2  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,13<br>0.0050  | 0,15<br>0.0060  | 195 (170 — 220)<br>640 (560 — 720)    |                                 |
| P3  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 170 (150 — 190)<br>560 (500 — 620)    | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 150 (130 — 170)<br>490 (430 — 550)    |                                 |
| P5  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 145 (130 — 160)<br>475 (430 — 520)    |                                 |
| P6  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,13<br>0.0050  | 160 (140 — 180)<br>520 (460 — 590)    |                                 |
| P7  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,13<br>0.0050  | 150 (140 — 170)<br>490 (460 — 550)    | Stainless steel and S-materials |
| P8  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 140 (130 — 160)<br>460 (430 — 520)    |                                 |
| P11 | E/M/A/D                                                                           | 0,30<br>0.30       | 0,95<br>0.95       | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 95 (84 — 100)<br>310 (280 — 320)      |                                 |
| P12 | E/M/A/D                                                                           | 0,30<br>0.30       | 0,95<br>0.95       | 0,044<br>0.0017 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,075<br>0.0030 | 60 (54 — 68)<br>195 (180 — 220)       |                                 |
| M1  | E/M/A                                                                             | 0,30<br>0.30       | 0,95<br>0.95       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 0,12<br>0.0048  | 110 (97 — 120)<br>360 (320 — 390)     | Non ferrous                     |
| M2  | E/M/A                                                                             | 0,30<br>0.30       | 0,95<br>0.95       | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 90 (80 — 100)<br>295 (270 — 320)      |                                 |
| M3  | E/M/A                                                                             | 0,30<br>0.30       | 0,95<br>0.95       | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 60 (47 — 70)<br>195 (160 — 220)       |                                 |
| M4  | E/M/A                                                                             | 0,30<br>0.30       | 0,95<br>0.95       | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 45 (37 — 54)<br>150 (130 — 170)       |                                 |
| M5  | E/M/A                                                                             | 0,30<br>0.30       | 0,95<br>0.95       | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 38 (31 — 45)<br>125 (110 — 140)       | Hard                            |
| K1  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 160 (160 — 190)<br>520 (530 — 620)    |                                 |
| K2  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 140 (140 — 170)<br>460 (460 — 550)    |                                 |
| K3  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 120 (120 — 140)<br>395 (400 — 450)    |                                 |
| K4  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 115 (110 — 130)<br>375 (370 — 420)    | Plastic and cf/np               |
| K5  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 150 (130 — 170)<br>490 (430 — 550)    |                                 |
| K6  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 215 (190 — 240)<br>710 (630 — 780)    |                                 |
| K7  | E/M/A/D                                                                           | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 190 (170 — 210)<br>620 (560 — 680)    |                                 |
| N1  | E/M/A                                                                             | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 670 (560 — 770)<br>2200 (1900 — 2500) | Graphite                        |
| N2  | E/M/A                                                                             | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 430 (360 — 490)<br>1400 (1200 — 1600) |                                 |
| N3  | E/M/A                                                                             | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 285 (240 — 330)<br>940 (790 — 1000)   |                                 |
| N11 | E/M/A                                                                             | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 335 (280 — 380)<br>1100 (920 — 1200)  |                                 |
| S1  | E                                                                                 | 0,15<br>0.15       | 0,95<br>0.95       | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 43 (26 — 60)<br>140 (86 — 190)        | X-Heads                         |
| S2  | E                                                                                 | 0,15<br>0.15       | 0,95<br>0.95       | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 35 (21 — 48)<br>115 (69 — 150)        |                                 |
| S3  | E                                                                                 | 0,15<br>0.15       | 0,95<br>0.95       | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 30 (19 — 42)<br>100 (63 — 130)        |                                 |
| S11 | E                                                                                 | 0,40<br>0.40       | 0,95<br>0.95       | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 105 (77 — 130)<br>345 (260 — 420)     |                                 |
| S12 | E                                                                                 | 0,40<br>0.40       | 0,95<br>0.95       | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 80 (59 — 100)<br>260 (200 — 320)      | Minimaster                      |
| S13 | E                                                                                 | 0,40<br>0.40       | 0,95<br>0.95       | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 65 (47 — 83)<br>215 (160 — 270)       |                                 |
| H5  | M/A                                                                               | 0,050<br>0.050     | 0,95<br>0.95       | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 75 (59 — 73)<br>245 (200 — 230)       |                                 |
| H8  | M/A                                                                               | 0,050<br>0.050     | 0,95<br>0.95       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 75 (62 — 76)<br>245 (210 — 240)       |                                 |
| H21 | M/A                                                                               | 0,050<br>0.050     | 0,95<br>0.95       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 75 (62 — 76)<br>245 (210 — 240)       |                                 |
| H31 | M/A                                                                               | 0,050<br>0.050     | 0,95<br>0.95       | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 60 (48 — 59)<br>195 (160 — 190)       |                                 |
| TS1 | A/D                                                                               | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 275 (170 — 380)<br>900 (560 — 1200)   |                                 |
| TP1 | A/D                                                                               | 0,40<br>0.40       | 0,95<br>0.95       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 275 (170 — 380)<br>900 (560 — 1200)   |                                 |

#### Cutting data – XSE550 – Slot milling PCEDC 4 inch

|                                 | SMG |  | $a_p$ /DC    | $f_z$           |                 |                 |                 | $v_c$                                 |
|---------------------------------|-----|-----------------------------------------------------------------------------------|--------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|                                 |     |                                                                                   |              | 3/8             | 1/2             | 5/8             | 3/4             |                                       |
| Universal                       | P1  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 190 (170 — 210)<br>620 (560 — 680)    |
|                                 | P2  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 185 (160 — 210)<br>610 (530 — 680)    |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 160 (140 — 180)<br>520 (460 — 590)    |
|                                 | P4  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 140 (120 — 150)<br>460 (400 — 490)    |
|                                 | P5  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 135 (120 — 150)<br>445 (400 — 490)    |
|                                 | P6  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 150 (130 — 170)<br>490 (430 — 550)    |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 140 (130 — 160)<br>460 (430 — 520)    |
|                                 | P8  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 135 (120 — 150)<br>445 (400 — 490)    |
|                                 | P11 | E/M/A/D                                                                           | 0,60<br>0.60 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 85 (74 — 94)<br>280 (250 — 300)       |
|                                 | P12 | E/M/A/D                                                                           | 0,60<br>0.60 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 50 (44 — 55)<br>165 (150 — 180)       |
| Non ferrous                     | M1  | E/M/A                                                                             | 0,60<br>0.60 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 100 (87 — 110)<br>330 (290 — 360)     |
|                                 | M2  | E/M/A                                                                             | 0,60<br>0.60 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 80 (70 — 90)<br>260 (230 — 290)       |
|                                 | M3  | E/M/A                                                                             | 0,60<br>0.60 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 50 (40 — 60)<br>165 (140 — 190)       |
|                                 | M4  | E/M/A                                                                             | 0,60<br>0.60 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 37 (30 — 45)<br>120 (99 — 140)        |
| Hard                            | M5  | E/M/A                                                                             | 0,60<br>0.60 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 31 (25 — 37)<br>100 (83 — 120)        |
| Plastic and cfrp                | K1  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 150 (150 — 180)<br>490 (500 — 590)    |
|                                 | K2  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 130 (130 — 150)<br>425 (430 — 490)    |
|                                 | K3  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 110 (110 — 130)<br>360 (370 — 420)    |
|                                 | K4  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 105 (99 — 120)<br>345 (330 — 390)     |
|                                 | K5  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 140 (120 — 160)<br>460 (400 — 520)    |
|                                 | K6  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 205 (180 — 230)<br>670 (600 — 750)    |
|                                 | K7  | E/M/A/D                                                                           | 0,80<br>0.80 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,065<br>0.0026 | 0,080<br>0.0032 | 180 (160 — 200)<br>590 (530 — 650)    |
| Graphite                        | N1  | E/M/A                                                                             | 0,60<br>0.60 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 600 (510 — 700)<br>1975 (1700 — 2200) |
|                                 | N2  | E/M/A                                                                             | 0,60<br>0.60 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 385 (330 — 450)<br>1275 (1100 — 1400) |
|                                 | N3  | E/M/A                                                                             | 0,60<br>0.60 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 255 (220 — 300)<br>840 (730 — 980)    |
|                                 | N11 | E/M/A                                                                             | 0,60<br>0.60 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 300 (250 — 350)<br>980 (830 — 1100)   |
| X-Heads                         | S1  | E                                                                                 | 0,30<br>0.30 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 36 (22 — 50)<br>120 (73 — 160)        |
|                                 | S2  | E                                                                                 | 0,30<br>0.30 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 29 (18 — 40)<br>95 (60 — 130)         |
|                                 | S3  | E                                                                                 | 0,30<br>0.30 | 0,030<br>0.0012 | 0,036<br>0.0014 | 0,048<br>0.0019 | 0,060<br>0.0024 | 25 (15 — 34)<br>80 (50 — 110)         |
|                                 | S11 | E                                                                                 | 0,50<br>0.50 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 90 (65 — 110)<br>295 (220 — 360)      |
| Minimaster                      | S12 | E                                                                                 | 0,50<br>0.50 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 70 (50 — 90)<br>230 (170 — 290)       |
|                                 | S13 | E                                                                                 | 0,50<br>0.50 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 55 (39 — 69)<br>180 (130 — 220)       |
|                                 | H5  | M/A                                                                               | 0,26<br>0.26 | 0,025<br>0.0010 | 0,030<br>0.0012 | 0,040<br>0.0016 | 0,050<br>0.0020 | 50 (41 — 50)<br>165 (140 — 160)       |
|                                 | H8  | M/A                                                                               | 0,26<br>0.26 | 0,025<br>0.0010 | 0,030<br>0.0012 | 0,040<br>0.0016 | 0,050<br>0.0020 | 50 (41 — 50)<br>165 (140 — 160)       |
|                                 | H21 | M/A                                                                               | 0,26<br>0.26 | 0,025<br>0.0010 | 0,030<br>0.0012 | 0,040<br>0.0016 | 0,050<br>0.0020 | 50 (41 — 50)<br>165 (140 — 160)       |
|                                 | H31 | M/A                                                                               | 0,26<br>0.26 | 0,025<br>0.0010 | 0,030<br>0.0012 | 0,038<br>0.0015 | 0,044<br>0.0017 | 38 (31 — 38)<br>125 (110 — 120)       |
|                                 | TS1 | A/D                                                                               | 0,60<br>0.60 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 250 (150 — 340)<br>820 (500 — 1100)   |
|                                 | TP1 | A/D                                                                               | 0,60<br>0.60 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,10<br>0.0040  | 250 (150 — 340)<br>820 (500 — 1100)   |

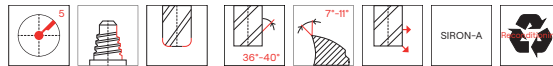
## XSE550

High performance – Universal – Square – 5 Flutes – Corner radius



D

- Tolerances:
- DC= 0/-0,0508 mm
- RE=  $\pm 0,0254$  mm
- Regrind possible if DC is  $\geq \varnothing 12$  mm



| Designation          | Item number | Length index | Tool shape | CZCMS | DC   | DCSFMS | APMXS | LF   | RE  | PCEDC | SW   | Grade |
|----------------------|-------------|--------------|------------|-------|------|--------|-------|------|-----|-------|------|-------|
|                      |             |              |            |       | mm   | mm     | mm    | mm   | mm  |       |      | SIRA  |
| XSE550E10100D2R050Z5 | 10138337    | 2            | D          | E10   | 10,0 | 9,7    | 12,0  | 18,7 | 0,5 | 5     | 8,0  | ■     |
| XSE550E10100D2R100Z5 | 10138338    | 2            | D          | E10   | 10,0 | 9,7    | 12,0  | 18,7 | 1,0 | 5     | 8,0  | ■     |
| XSE550E12120D2R050Z5 | 10138339    | 2            | D          | E12   | 12,0 | 11,7   | 14,4  | 22,1 | 0,5 | 5     | 10,0 | ■     |
| XSE550E12120D2R100Z5 | 10138340    | 2            | D          | E12   | 12,0 | 11,7   | 14,4  | 22,1 | 1,0 | 5     | 10,0 | ■     |
| XSE550E16160D2R050Z5 | 10138341    | 2            | D          | E16   | 16,0 | 15,5   | 19,2  | 29,2 | 0,5 | 5     | 12,0 | ■     |
| XSE550E16160D2R100Z5 | 10138342    | 2            | D          | E16   | 16,0 | 15,5   | 19,2  | 29,2 | 1,0 | 5     | 12,0 | ■     |
| XSE550E20200D2R050Z5 | 10138343    | 2            | D          | E20   | 20,0 | 19,3   | 24,0  | 34,3 | 0,5 | 5     | 16,0 | ■     |
| XSE550E20200D2R100Z5 | 10138344    | 2            | D          | E20   | 20,0 | 19,3   | 24,0  | 34,3 | 1,0 | 5     | 16,0 | ■     |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

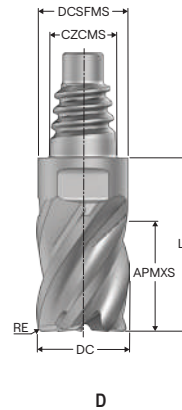
Graphite

X-Heads

Minimaster

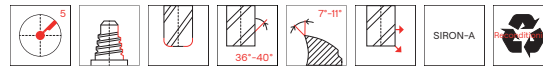
#### XSE550

High performance – Universal – Square – 5 Flutes – Corner radius – Inch



D

- Tolerances:  
 —DC= 0/-0.002 Inch  
 —RE= ±0.001 Inch  
 —Regrind possible if DC is ≥Ø.500 Inch



| Designation           | Item number | Length index | Tool shape | CZCMS | DC    | DCSFMS | APMXS | LF    | RE    | PCEDC | SW   | Grade |
|-----------------------|-------------|--------------|------------|-------|-------|--------|-------|-------|-------|-------|------|-------|
|                       |             |              |            |       | Inch  | Inch   | Inch  | Inch  | Inch  |       |      | SIRA  |
| XSE550E10.375D2R015Z5 | 10138345    | 2            | D          | E10   | 0.375 | 0.364  | 0.450 | 0.720 | 0.015 | 5     | 8,0  | ■     |
| XSE550E10.375D2R030Z5 | 10138346    | 2            | D          | E10   | 0.375 | 0.364  | 0.450 | 0.720 | 0.030 | 5     | 8,0  | ■     |
| XSE550E10.375D2R045Z5 | 10138347    | 2            | D          | E10   | 0.375 | 0.364  | 0.450 | 0.720 | 0.044 | 5     | 8,0  | ■     |
| XSE550E12.500D2R030Z5 | 10138348    | 2            | D          | E12   | 0.500 | 0.484  | 0.600 | 0.906 | 0.030 | 5     | 10,0 | ■     |
| XSE550E12.500D2R060Z5 | 10138349    | 2            | D          | E12   | 0.500 | 0.484  | 0.600 | 0.906 | 0.060 | 5     | 10,0 | ■     |
| XSE550E12.500D2R120Z5 | 10138350    | 2            | D          | E12   | 0.500 | 0.484  | 0.600 | 0.906 | 0.120 | 5     | 10,0 | ■     |
| XSE550E16.625D2R030Z5 | 10138351    | 2            | D          | E16   | 0.625 | 0.610  | 0.750 | 1.150 | 0.030 | 5     | 12,0 | ■     |
| XSE550E16.625D2R060Z5 | 10138352    | 2            | D          | E16   | 0.625 | 0.610  | 0.750 | 1.150 | 0.060 | 5     | 12,0 | ■     |
| XSE550E16.625D2R120Z5 | 10138353    | 2            | D          | E16   | 0.625 | 0.610  | 0.750 | 1.150 | 0.120 | 5     | 12,0 | ■     |
| XSE550E20.750D2R030Z5 | 10138354    | 2            | D          | E20   | 0.750 | 0.728  | 0.900 | 1.295 | 0.030 | 5     | 16,0 | ■     |
| XSE550E20.750D2R060Z5 | 10138355    | 2            | D          | E20   | 0.750 | 0.728  | 0.900 | 1.295 | 0.060 | 5     | 16,0 | ■     |
| XSE550E20.750D2R120Z5 | 10138356    | 2            | D          | E20   | 0.750 | 0.728  | 0.900 | 1.295 | 0.120 | 5     | 16,0 | ■     |
| XSE550E251.00D2R030Z5 | 10138357    | 2            | D          | E25   | 1.000 | 0.965  | 1.200 | 1.673 | 0.030 | 5     | 20,0 | ■     |
| XSE550E251.00D2R060Z5 | 10138358    | 2            | D          | E25   | 1.000 | 0.965  | 1.200 | 1.673 | 0.060 | 5     | 20,0 | ■     |
| XSE550E251.00D2R120Z5 | 10138359    | 2            | D          | E25   | 1.000 | 0.965  | 1.200 | 1.673 | 0.120 | 5     | 20,0 | ■     |

■ Stocked standard.



## Cutting data – XSE550 – Side milling PCEDC 5

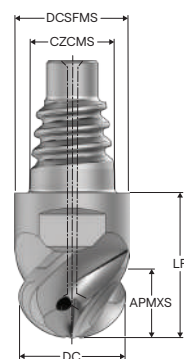
| SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$           |                 |                 |                 |                 | $v_c$                                 |                                 |
|-----|-----------------------------------------------------------------------------------|----------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                |              | 10              | 12              | 16              | 20              | 25              |                                       |                                 |
| P1  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,15<br>0,0060  | 165 (130 — 190)<br>540 (430 — 620)    | Universal                       |
| P2  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,16<br>0,0065  | 160 (130 — 190)<br>520 (430 — 620)    |                                 |
| P3  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,15<br>0,0060  | 140 (110 — 160)<br>460 (370 — 520)    | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,14<br>0,0055  | 125 (97 — 140)<br>410 (320 — 450)     |                                 |
| P5  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,14<br>0,0055  | 110 (97 — 130)<br>360 (320 — 420)     | Stainless steel and S-materials |
| P6  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,075<br>0,0030 | 0,085<br>0,0034 | 0,11<br>0,0044  | 0,12<br>0,0048  | 0,14<br>0,0055  | 125 (110 — 150)<br>410 (370 — 490)    |                                 |
| P7  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,075<br>0,0030 | 0,085<br>0,0034 | 0,11<br>0,0044  | 0,12<br>0,0048  | 0,14<br>0,0055  | 120 (110 — 140)<br>395 (370 — 450)    | Non ferrous                     |
| P8  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,15<br>0,0060  | 110 (97 — 130)<br>360 (320 — 420)     |                                 |
| P11 | E/M/A/D                                                                           | 0,20<br>0,20   | 0,95<br>0,95 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,090<br>0,0036 | 0,10<br>0,0040  | 0,12<br>0,0048  | 100 (89 — 110)<br>330 (300 — 360)     | Hard                            |
| P12 | E/M/A/D                                                                           | 0,20<br>0,20   | 0,95<br>0,95 | 0,042<br>0,0017 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,080<br>0,0032 | 65 (56 — 71)<br>215 (190 — 230)       |                                 |
| M1  | E/M/A                                                                             | 0,20<br>0,20   | 0,95<br>0,95 | 0,070<br>0,0028 | 0,080<br>0,0032 | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,13<br>0,0050  | 115 (110 — 120)<br>375 (370 — 390)    | Plastic and cf/p                |
| M2  | E/M/A                                                                             | 0,20<br>0,20   | 0,95<br>0,95 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040  | 0,12<br>0,0048  | 95 (84 — 100)<br>310 (280 — 320)      |                                 |
| M3  | E/M/A                                                                             | 0,20<br>0,20   | 0,95<br>0,95 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,10<br>0,0040  | 0,12<br>0,0048  | 60 (47 — 69)<br>195 (160 — 220)       | Graphite                        |
| M4  | E/M/A                                                                             | 0,20<br>0,20   | 0,95<br>0,95 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,090<br>0,0036 | 0,10<br>0,0040  | 44 (36 — 53)<br>145 (120 — 170)       |                                 |
| M5  | E/M/A                                                                             | 0,20<br>0,20   | 0,95<br>0,95 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,090<br>0,0036 | 0,10<br>0,0040  | 37 (30 — 44)<br>120 (99 — 140)        | X-Heads                         |
| K1  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,12<br>0,0048  | 130 (120 — 150)<br>425 (400 — 490)    |                                 |
| K2  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040  | 0,11<br>0,0044  | 115 (98 — 130)<br>375 (330 — 420)     | Minimaster                      |
| K3  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040  | 0,11<br>0,0044  | 100 (83 — 110)<br>330 (280 — 360)     |                                 |
| K4  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040  | 0,11<br>0,0044  | 95 (79 — 100)<br>310 (260 — 320)      | X-Heads                         |
| K5  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,12<br>0,0048  | 105 (89 — 130)<br>345 (300 — 420)     |                                 |
| K6  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,11<br>0,0044  | 0,12<br>0,0048  | 0,14<br>0,0055  | 155 (130 — 190)<br>510 (430 — 620)    | Graphite                        |
| K7  | E/M/A/D                                                                           | 0,30<br>0,30   | 0,95<br>0,95 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,12<br>0,0048  | 135 (120 — 160)<br>445 (400 — 520)    |                                 |
| N1  | E/M/A                                                                             | 0,30<br>0,30   | 0,95<br>0,95 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,12<br>0,0048  | 690 (580 — 800)<br>2275 (2000 — 2600) | X-Heads                         |
| N2  | E/M/A                                                                             | 0,30<br>0,30   | 0,95<br>0,95 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,12<br>0,0048  | 445 (380 — 520)<br>1450 (1300 — 1700) |                                 |
| N3  | E/M/A                                                                             | 0,30<br>0,30   | 0,95<br>0,95 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,12<br>0,0048  | 300 (250 — 340)<br>980 (830 — 1100)   | Minimaster                      |
| N11 | E/M/A                                                                             | 0,30<br>0,30   | 0,95<br>0,95 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,12<br>0,0048  | 345 (290 — 400)<br>1125 (960 — 1300)  |                                 |
| S1  | E                                                                                 | 0,15<br>0,15   | 0,95<br>0,95 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,14<br>0,0055  | 27 (24 — 41)<br>90 (79 — 130)         | X-Heads                         |
| S2  | E                                                                                 | 0,15<br>0,15   | 0,95<br>0,95 | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,14<br>0,0055  | 26 (21 — 35)<br>85 (69 — 110)         |                                 |
| S3  | E                                                                                 | 0,15<br>0,15   | 0,95<br>0,95 | 0,070<br>0,0028 | 0,080<br>0,0032 | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,13<br>0,0050  | 25 (19 — 30)<br>80 (63 — 98)          | Minimaster                      |
| S11 | E                                                                                 | 0,30<br>0,30   | 0,95<br>0,95 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,090<br>0,0036 | 0,10<br>0,0040  | 65 (52 — 88)<br>215 (180 — 280)       |                                 |
| S12 | E                                                                                 | 0,30<br>0,30   | 0,95<br>0,95 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,090<br>0,0036 | 0,10<br>0,0040  | 50 (40 — 68)<br>165 (140 — 220)       | X-Heads                         |
| S13 | E                                                                                 | 0,30<br>0,30   | 0,95<br>0,95 | 0,048<br>0,0019 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,080<br>0,0032 | 0,090<br>0,0036 | 41 (32 — 54)<br>135 (110 — 170)       |                                 |
| H5  | M/A                                                                               | 0,050<br>0,050 | 0,95<br>0,95 | 0,090<br>0,0036 | 0,10<br>0,0040  | 0,13<br>0,0050  | 0,15<br>0,0060  | 0,17<br>0,0065  | 70 (56 — 83)<br>230 (190 — 270)       | Minimaster                      |
| H8  | M/A                                                                               | 0,050<br>0,050 | 0,95<br>0,95 | 0,070<br>0,0028 | 0,080<br>0,0032 | 0,10<br>0,0040  | 0,11<br>0,0044  | 0,13<br>0,0050  | 70 (58 — 86)<br>230 (200 — 280)       |                                 |
| H21 | M/A                                                                               | 0,050<br>0,050 | 0,95<br>0,95 | 0,070<br>0,0028 | 0,080<br>0,0032 | 0,10<br>0,0040  | 0,11<br>0,0044  | 0,13<br>0,0050  | 70 (58 — 86)<br>230 (200 — 280)       | X-Heads                         |
| H31 | M/A                                                                               | 0,050<br>0,050 | 0,95<br>0,95 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,085<br>0,0034 | 0,10<br>0,0040  | 0,11<br>0,0044  | 55 (45 — 67)<br>180 (150 — 210)       |                                 |
| TS1 | A/D                                                                               | 0,30<br>0,30   | 0,95<br>0,95 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,12<br>0,0048  | 290 (180 — 400)<br>950 (600 — 1300)   | X-Heads                         |
| TP1 | A/D                                                                               | 0,30<br>0,30   | 0,95<br>0,95 | 0,065<br>0,0026 | 0,075<br>0,0030 | 0,095<br>0,0038 | 0,11<br>0,0044  | 0,12<br>0,0048  | 290 (180 — 400)<br>950 (600 — 1300)   |                                 |

#### Cutting data – XSE550 – Side milling PCEDC 5 inch

|                                 | SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$           |                 |                 |                 |                 | $v_c$                                 |
|---------------------------------|-----|-----------------------------------------------------------------------------------|----------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|                                 |     |                                                                                   |                |              | 3/8             | 1/2             | 5/8             | 3/4             | 1               |                                       |
| Universal                       | P1  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,15<br>0.0060  | 200 (180 — 220)<br>660 (600 — 720)    |
|                                 | P2  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,16<br>0.0065  | 195 (170 — 220)<br>640 (560 — 720)    |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 170 (150 — 190)<br>560 (500 — 620)    |
|                                 | P4  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,14<br>0.0055  | 150 (130 — 170)<br>490 (430 — 550)    |
|                                 | P5  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,14<br>0.0055  | 145 (130 — 160)<br>475 (430 — 520)    |
|                                 | P6  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,075<br>0.0030 | 0,085<br>0.0034 | 0,11<br>0.0044  | 0,12<br>0.0048  | 0,14<br>0.0055  | 160 (140 — 180)<br>520 (460 — 590)    |
|                                 | P7  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,075<br>0.0030 | 0,085<br>0.0034 | 0,11<br>0.0044  | 0,12<br>0.0048  | 0,14<br>0.0055  | 150 (130 — 170)<br>490 (430 — 550)    |
| Stainless steel and S-materials | P8  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 145 (130 — 160)<br>475 (430 — 520)    |
|                                 | P11 | E/M/A/D                                                                           | 0,20<br>0.20   | 0,95<br>0.95 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 100 (89 — 110)<br>330 (300 — 360)     |
|                                 | P12 | E/M/A/D                                                                           | 0,20<br>0.20   | 0,95<br>0.95 | 0,042<br>0.0017 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,080<br>0.0032 | 65 (56 — 71)<br>215 (190 — 230)       |
|                                 | M1  | E/M/A                                                                             | 0,20<br>0.20   | 0,95<br>0.95 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,13<br>0.0050  | 115 (110 — 120)<br>375 (370 — 390)    |
|                                 | M2  | E/M/A                                                                             | 0,20<br>0.20   | 0,95<br>0.95 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 95 (84 — 100)<br>310 (280 — 320)      |
| Non ferrous                     | M3  | E/M/A                                                                             | 0,20<br>0.20   | 0,95<br>0.95 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 60 (47 — 69)<br>195 (160 — 220)       |
|                                 | M4  | E/M/A                                                                             | 0,20<br>0.20   | 0,95<br>0.95 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,10<br>0.0040  | 44 (36 — 53)<br>145 (120 — 170)       |
|                                 | M5  | E/M/A                                                                             | 0,20<br>0.20   | 0,95<br>0.95 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,10<br>0.0040  | 37 (30 — 44)<br>120 (99 — 140)        |
|                                 | K1  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,12<br>0.0048  | 165 (160 — 190)<br>540 (530 — 620)    |
|                                 | K2  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,11<br>0.0044  | 145 (140 — 170)<br>475 (460 — 550)    |
| Hard                            | K3  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,11<br>0.0044  | 125 (120 — 140)<br>410 (400 — 450)    |
|                                 | K4  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,11<br>0.0044  | 120 (110 — 140)<br>395 (370 — 450)    |
|                                 | K5  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,12<br>0.0048  | 155 (140 — 170)<br>510 (460 — 550)    |
|                                 | K6  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 0,12<br>0.0048  | 0,14<br>0.0055  | 225 (200 — 250)<br>740 (660 — 820)    |
|                                 | K7  | E/M/A/D                                                                           | 0,30<br>0.30   | 0,95<br>0.95 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,12<br>0.0048  | 200 (170 — 220)<br>660 (560 — 720)    |
| Plastic and cfrrp               | N1  | E/M/A                                                                             | 0,30<br>0.30   | 0,95<br>0.95 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,12<br>0.0048  | 690 (580 — 800)<br>2275 (2000 — 2600) |
|                                 | N2  | E/M/A                                                                             | 0,30<br>0.30   | 0,95<br>0.95 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,12<br>0.0048  | 445 (380 — 520)<br>1450 (1300 — 1700) |
|                                 | N3  | E/M/A                                                                             | 0,30<br>0.30   | 0,95<br>0.95 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,12<br>0.0048  | 300 (250 — 340)<br>980 (830 — 1100)   |
|                                 | N11 | E/M/A                                                                             | 0,30<br>0.30   | 0,95<br>0.95 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,12<br>0.0048  | 345 (290 — 400)<br>1125 (960 — 1300)  |
|                                 | S1  | E                                                                                 | 0,15<br>0.15   | 0,95<br>0.95 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,14<br>0.0055  | 44 (27 — 61)<br>145 (89 — 200)        |
| X-Heads                         | S2  | E                                                                                 | 0,15<br>0.15   | 0,95<br>0.95 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,14<br>0.0055  | 35 (22 — 49)<br>115 (73 — 160)        |
|                                 | S3  | E                                                                                 | 0,15<br>0.15   | 0,95<br>0.95 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,13<br>0.0050  | 31 (19 — 43)<br>100 (63 — 140)        |
|                                 | S11 | E                                                                                 | 0,30<br>0.30   | 0,95<br>0.95 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,10<br>0.0040  | 105 (75 — 130)<br>345 (250 — 420)     |
|                                 | S12 | E                                                                                 | 0,30<br>0.30   | 0,95<br>0.95 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,10<br>0.0040  | 80 (58 — 100)<br>260 (200 — 320)      |
|                                 | S13 | E                                                                                 | 0,30<br>0.30   | 0,95<br>0.95 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,090<br>0.0036 | 65 (46 — 81)<br>215 (160 — 260)       |
| Minimaster                      | H5  | M/A                                                                               | 0,050<br>0.050 | 0,95<br>0.95 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,13<br>0.0050  | 0,15<br>0.0060  | 0,17<br>0.0065  | 70 (56 — 83)<br>230 (190 — 270)       |
|                                 | H8  | M/A                                                                               | 0,050<br>0.050 | 0,95<br>0.95 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,11<br>0.0044  | 0,13<br>0.0050  | 70 (58 — 86)<br>230 (200 — 280)       |
|                                 | H21 | M/A                                                                               | 0,050<br>0.050 | 0,95<br>0.95 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,11<br>0.0044  | 0,13<br>0.0050  | 70 (58 — 86)<br>230 (200 — 280)       |
|                                 | H31 | M/A                                                                               | 0,050<br>0.050 | 0,95<br>0.95 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,11<br>0.0044  | 55 (45 — 67)<br>180 (150 — 210)       |
|                                 | TS1 | A/D                                                                               | 0,30<br>0.30   | 0,95<br>0.95 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,12<br>0.0048  | 290 (180 — 400)<br>950 (600 — 1300)   |
|                                 | TP1 | A/D                                                                               | 0,30<br>0.30   | 0,95<br>0.95 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,12<br>0.0048  | 290 (180 — 400)<br>950 (600 — 1300)   |

## XSB540

High performance – Universal – Ball nose – 4 Flutes



D

- Tolerances:
- DC= e8
- RE=  $\pm 0,02$  mm
- Regrind possible if DC is  $\geq \varnothing 12$  mm



| Designation        | Item number | Length index | Tool shape | CSP | CZCMS | DC   | DCSFMS | APMXS | LF   | RE  | PCEDC | SW   | Grade |
|--------------------|-------------|--------------|------------|-----|-------|------|--------|-------|------|-----|-------|------|-------|
|                    |             |              |            |     |       | mm   | mm     | mm    | mm   | mm  |       |      | SIRA  |
| XSB540E10100D1BZ4A | 10138334    | 1            | D          | ■   | E10   | 10,0 | 9,7    | 5,5   | 12,3 | 5,0 | 4     | 8,0  | ■     |
| XSB540E12120D1BZ4A | 10138335    | 1            | D          | ■   | E12   | 12,0 | 11,7   | 6,6   | 14,4 | 6,0 | 4     | 10,0 | ■     |
| XSB540E16160D1BZ4A | 10138336    | 1            | D          | ■   | E16   | 16,0 | 15,5   | 8,8   | 18,6 | 8,0 | 4     | 12,0 | ■     |

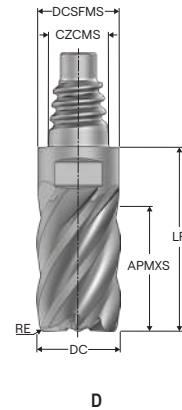
■ Stocked standard.

#### Cutting data – XSB540 Copy milling roughing

|                                 | SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$            |                  |                 | $v_c$                                 |
|---------------------------------|-----|-----------------------------------------------------------------------------------|----------------|--------------|------------------|------------------|-----------------|---------------------------------------|
|                                 |     |                                                                                   |                |              | 10               | 12               | 16              |                                       |
| Universal                       | P1  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,50<br>0.50 | 0,055<br>0.0022  | 0,065<br>0.0026  | 0,080<br>0.0032 | 210 (190 — 240)<br>690 (630 — 780)    |
|                                 | P2  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,50<br>0.50 | 0,055<br>0.0022  | 0,065<br>0.0026  | 0,080<br>0.0032 | 205 (180 — 230)<br>670 (600 — 750)    |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,50<br>0.50 | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,075<br>0.0030 | 180 (160 — 200)<br>590 (530 — 650)    |
|                                 | P4  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,50<br>0.50 | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,075<br>0.0030 | 155 (140 — 170)<br>510 (460 — 550)    |
|                                 | P5  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,50<br>0.50 | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,075<br>0.0030 | 150 (130 — 170)<br>490 (430 — 550)    |
|                                 | P6  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,50<br>0.50 | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,075<br>0.0030 | 170 (150 — 190)<br>560 (500 — 620)    |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,50<br>0.50 | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,075<br>0.0030 | 160 (140 — 180)<br>520 (460 — 590)    |
|                                 | P8  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,50<br>0.50 | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,075<br>0.0030 | 150 (130 — 170)<br>490 (430 — 550)    |
|                                 | P11 | E/M/A/D                                                                           | 0,10<br>0.10   | 0,50<br>0.50 | 0,070<br>0.0028  | 0,085<br>0.0034  | 0,11<br>0.0044  | 190 (160 — 220)<br>620 (530 — 720)    |
|                                 | P12 | E/M/A/D                                                                           | 0,10<br>0.10   | 0,50<br>0.50 | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,075<br>0.0030 | 115 (97 — 130)<br>375 (320 — 420)     |
| Non ferrous                     | M1  | E/M/A                                                                             | 0,10<br>0.10   | 0,50<br>0.50 | 0,055<br>0.0022  | 0,065<br>0.0026  | 0,080<br>0.0032 | 145 (120 — 170)<br>475 (400 — 550)    |
|                                 | M2  | E/M/A                                                                             | 0,10<br>0.10   | 0,50<br>0.50 | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,075<br>0.0030 | 115 (97 — 130)<br>375 (320 — 420)     |
|                                 | M3  | E/M/A                                                                             | 0,10<br>0.10   | 0,50<br>0.50 | 0,040<br>0.0016  | 0,048<br>0.0019  | 0,060<br>0.0024 | 95 (75 — 110)<br>310 (250 — 360)      |
|                                 | M4  | E/M/A                                                                             | 0,10<br>0.10   | 0,50<br>0.50 | 0,036<br>0.0014  | 0,042<br>0.0017  | 0,050<br>0.0020 | 75 (57 — 88)<br>245 (190 — 280)       |
| Hard                            | M5  | E/M/A                                                                             | 0,10<br>0.10   | 0,50<br>0.50 | 0,036<br>0.0014  | 0,042<br>0.0017  | 0,050<br>0.0020 | 60 (48 — 74)<br>195 (160 — 240)       |
|                                 | K1  | E/M/A/D                                                                           | 0,15<br>0.15   | 0,50<br>0.50 | 0,040<br>0.0016  | 0,048<br>0.0019  | 0,060<br>0.0024 | 205 (190 — 220)<br>670 (630 — 720)    |
|                                 | K2  | E/M/A/D                                                                           | 0,15<br>0.15   | 0,50<br>0.50 | 0,036<br>0.0014  | 0,044<br>0.0017  | 0,055<br>0.0022 | 180 (160 — 190)<br>590 (530 — 620)    |
|                                 | K3  | E/M/A/D                                                                           | 0,15<br>0.15   | 0,50<br>0.50 | 0,036<br>0.0014  | 0,044<br>0.0017  | 0,055<br>0.0022 | 150 (140 — 160)<br>490 (460 — 520)    |
| Plastic and cfrp                | K4  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,50<br>0.50 | 0,040<br>0.0016  | 0,048<br>0.0019  | 0,060<br>0.0024 | 170 (150 — 190)<br>560 (500 — 620)    |
|                                 | K5  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,50<br>0.50 | 0,036<br>0.0014  | 0,042<br>0.0017  | 0,055<br>0.0022 | 105 (90 — 110)<br>345 (300 — 360)     |
|                                 | K6  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,50<br>0.50 | 0,040<br>0.0016  | 0,048<br>0.0019  | 0,060<br>0.0024 | 150 (140 — 160)<br>490 (460 — 520)    |
|                                 | K7  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,50<br>0.50 | 0,036<br>0.0014  | 0,042<br>0.0017  | 0,055<br>0.0022 | 130 (120 — 140)<br>425 (400 — 450)    |
| Graphite                        | N1  | E/M/A                                                                             | 0,20<br>0.20   | 0,50<br>0.50 | 0,070<br>0.0028  | 0,085<br>0.0034  | 0,10<br>0.0040  | 640 (540 — 740)<br>2100 (1800 — 2400) |
|                                 | N2  | E/M/A                                                                             | 0,20<br>0.20   | 0,50<br>0.50 | 0,070<br>0.0028  | 0,085<br>0.0034  | 0,10<br>0.0040  | 415 (350 — 480)<br>1350 (1200 — 1500) |
|                                 | N3  | E/M/A                                                                             | 0,20<br>0.20   | 0,50<br>0.50 | 0,070<br>0.0028  | 0,085<br>0.0034  | 0,10<br>0.0040  | 275 (230 — 320)<br>900 (760 — 1000)   |
|                                 | N11 | E/M/A                                                                             | 0,15<br>0.15   | 0,50<br>0.50 | 0,070<br>0.0028  | 0,085<br>0.0034  | 0,10<br>0.0040  | 430 (380 — 480)<br>1400 (1300 — 1500) |
| X-Heads                         | S1  | E                                                                                 | 0,10<br>0.10   | 0,50<br>0.50 | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,075<br>0.0030 | 65 (54 — 74)<br>215 (180 — 240)       |
|                                 | S2  | E                                                                                 | 0,10<br>0.10   | 0,50<br>0.50 | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,075<br>0.0030 | 65 (59 — 75)<br>215 (200 — 240)       |
|                                 | S3  | E                                                                                 | 0,10<br>0.10   | 0,50<br>0.50 | 0,020<br>0.00080 | 0,024<br>0.00095 | 0,030<br>0.0012 | 32 (22 — 42)<br>105 (73 — 130)        |
|                                 | S11 | E                                                                                 | 0,15<br>0.15   | 0,50<br>0.50 | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,075<br>0.0030 | 110 (98 — 120)<br>360 (330 — 390)     |
| Minimaster                      | S12 | E                                                                                 | 0,15<br>0.15   | 0,50<br>0.50 | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,075<br>0.0030 | 85 (75 — 96)<br>280 (250 — 310)       |
|                                 | S13 | E                                                                                 | 0,15<br>0.15   | 0,50<br>0.50 | 0,044<br>0.0017  | 0,050<br>0.0020  | 0,065<br>0.0026 | 65 (59 — 75)<br>215 (200 — 240)       |
|                                 | H5  | M/A                                                                               | 0,030<br>0.030 | 0,44<br>0.44 | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,075<br>0.0030 | 135 (120 — 150)<br>445 (400 — 490)    |
|                                 | H8  | M/A                                                                               | 0,030<br>0.030 | 0,44<br>0.44 | 0,038<br>0.0015  | 0,046<br>0.0018  | 0,055<br>0.0022 | 135 (120 — 150)<br>445 (400 — 490)    |
|                                 | H21 | M/A                                                                               | 0,030<br>0.030 | 0,44<br>0.44 | 0,038<br>0.0015  | 0,046<br>0.0018  | 0,055<br>0.0022 | 135 (120 — 150)<br>445 (400 — 490)    |
|                                 | H31 | M/A                                                                               | 0,030<br>0.030 | 0,44<br>0.44 | 0,034<br>0.0013  | 0,040<br>0.0016  | 0,048<br>0.0019 | 100 (86 — 110)<br>330 (290 — 360)     |
|                                 | TS1 | A/D                                                                               | 0,15<br>0.15   | 0,50<br>0.50 | 0,10<br>0.0040   | 0,12<br>0.0048   | 0,15<br>0.0060  | 270 (170 — 370)<br>890 (560 — 1200)   |
|                                 | TP1 | A/D                                                                               | 0,15<br>0.15   | 0,50<br>0.50 | 0,10<br>0.0040   | 0,12<br>0.0048   | 0,15<br>0.0060  | 270 (170 — 370)<br>890 (560 — 1200)   |

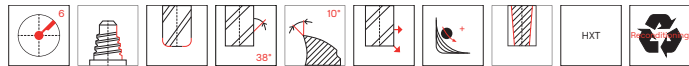
#### XSE720

High performance – Superalloy – Square – 6 Flutes – Corner radius



D

- Tolerances:
- DC= e7
- RE=  $\pm 0,02$  mm
- Regrind possible if DC is  $\geq \varnothing 12$  mm



| Designation          | Item number | Length index | Tool shape | CZCMS | DC   | DCSFMS | APMXS | LF   | RE  | PCEDC | SW   | Grade |
|----------------------|-------------|--------------|------------|-------|------|--------|-------|------|-----|-------|------|-------|
|                      |             |              |            |       | mm   | mm     | mm    | mm   | mm  |       |      | HXT   |
| XSE720E10100D3R050Z6 | 10138187    | 3            | D          | E10   | 10,0 | 9,7    | 15,0  | 21,8 | 0,5 | 6     | 8,0  | ■     |
| XSE720E10100D3R100Z6 | 10138188    | 3            | D          | E10   | 10,0 | 9,7    | 15,0  | 21,8 | 1,0 | 6     | 8,0  | ■     |
| XSE720E12120D3R050Z6 | 10138189    | 3            | D          | E12   | 12,0 | 11,7   | 18,0  | 25,9 | 0,5 | 6     | 10,0 | ■     |
| XSE720E12120D3R100Z6 | 10138190    | 3            | D          | E12   | 12,0 | 11,7   | 18,0  | 25,9 | 1,0 | 6     | 10,0 | ■     |
| XSE720E12120D3R200Z6 | 10138191    | 3            | D          | E12   | 12,0 | 11,7   | 18,0  | 25,9 | 2,0 | 6     | 10,0 | ■     |
| XSE720E12120D3R300Z6 | 10138192    | 3            | D          | E12   | 12,0 | 11,7   | 18,0  | 25,9 | 3,0 | 6     | 10,0 | ■     |
| XSE720E16160D3R050Z6 | 10138193    | 3            | D          | E16   | 16,0 | 15,5   | 24,0  | 34,1 | 0,5 | 6     | 12,0 | ■     |
| XSE720E16160D3R100Z6 | 10138194    | 3            | D          | E16   | 16,0 | 15,5   | 24,0  | 34,1 | 1,0 | 6     | 12,0 | ■     |
| XSE720E16160D3R200Z6 | 10138195    | 3            | D          | E16   | 16,0 | 15,5   | 24,0  | 34,1 | 2,0 | 6     | 12,0 | ■     |
| XSE720E16160D3R300Z6 | 10138196    | 3            | D          | E16   | 16,0 | 15,5   | 24,0  | 34,1 | 3,0 | 6     | 12,0 | ■     |
| XSE720E20200D3R050Z6 | 10138197    | 3            | D          | E20   | 20,0 | 19,3   | 30,0  | 40,2 | 0,5 | 6     | 16,0 | ■     |
| XSE720E20200D3R100Z6 | 10138198    | 3            | D          | E20   | 20,0 | 19,3   | 30,0  | 40,2 | 1,0 | 6     | 16,0 | ■     |
| XSE720E20200D3R200Z6 | 10138199    | 3            | D          | E20   | 20,0 | 19,3   | 30,0  | 40,2 | 2,0 | 6     | 16,0 | ■     |
| XSE720E20200D3R300Z6 | 10138200    | 3            | D          | E20   | 20,0 | 19,3   | 30,0  | 40,2 | 3,0 | 6     | 16,0 | ■     |
| XSE720E25250D3R200Z6 | 10138201    | 3            | D          | E25   | 25,0 | 24,2   | 37,5  | 49,5 | 2,0 | 6     | 20,0 | ■     |
| XSE720E25250D3R300Z6 | 10138202    | 3            | D          | E25   | 25,0 | 24,2   | 37,5  | 49,5 | 3,0 | 6     | 20,0 | ■     |
| XSE720E25250D3R400Z6 | 10138203    | 3            | D          | E25   | 25,0 | 24,2   | 37,5  | 49,5 | 4,0 | 6     | 20,0 | ■     |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

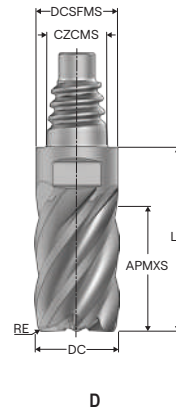
Graphite

X-Heads

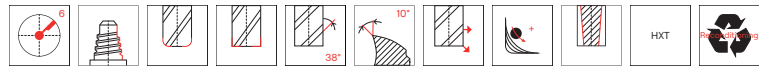
Minimaster

#### XSE720

High performance – Superalloy – Square – 6 Flutes – Corner radius or sharp – Inch



- Tolerances:
- DC= e7
- RE= ±.0008 Inch
- Regrind possible if DC is ≥Ø.500 Inch



| Designation           | Item number | Length index | Tool shape | CZCMS | DC    | DCSFMS | APMXS | LF    | RE    | PCEDC | SW   | Grade |
|-----------------------|-------------|--------------|------------|-------|-------|--------|-------|-------|-------|-------|------|-------|
|                       |             |              |            |       |       |        |       |       |       |       |      |       |
|                       |             |              |            |       | Inch  | Inch   | Inch  | Inch  | Inch  |       |      | HXT   |
| XSE720E10.375D3SZ6    | 10138204    | 3            | D          | E10   | 0.375 | 0.364  | 0.563 | 0.827 | —     | 6     | 8,0  | ■     |
| XSE720E10.375D3R030Z6 | 10138209    | 3            | D          | E10   | 0.375 | 0.364  | 0.563 | 0.827 | 0.030 | 6     | 8,0  | ■     |
| XSE720E12.500D3SZ6    | 10138205    | 3            | D          | E12   | 0.500 | 0.484  | 0.750 | 1.055 | —     | 6     | 10,0 | ■     |
| XSE720E12.500D3R030Z6 | 10138210    | 3            | D          | E12   | 0.500 | 0.484  | 0.750 | 1.055 | 0.030 | 6     | 10,0 | ■     |
| XSE720E12.500D3R060Z6 | 10138211    | 3            | D          | E12   | 0.500 | 0.484  | 0.750 | 1.055 | 0.060 | 6     | 10,0 | ■     |
| XSE720E12.500D3R120Z6 | 10138212    | 3            | D          | E12   | 0.500 | 0.484  | 0.750 | 1.055 | 0.120 | 6     | 10,0 | ■     |
| XSE720E16.625D3SZ6    | 10138206    | 3            | D          | E16   | 0.625 | 0.610  | 0.938 | 1.343 | —     | 6     | 12,0 | ■     |
| XSE720E16.625D3R030Z6 | 10138213    | 3            | D          | E16   | 0.625 | 0.610  | 0.938 | 1.343 | 0.030 | 6     | 12,0 | ■     |
| XSE720E16.625D3R060Z6 | 10138214    | 3            | D          | E16   | 0.625 | 0.610  | 0.938 | 1.343 | 0.060 | 6     | 12,0 | ■     |
| XSE720E16.625D3R120Z6 | 10138215    | 3            | D          | E16   | 0.625 | 0.610  | 0.938 | 1.343 | 0.120 | 6     | 12,0 | ■     |
| XSE720E20.750D3SZ6    | 10138207    | 3            | D          | E20   | 0.750 | 0.728  | 1.125 | 1.524 | —     | 6     | 16,0 | ■     |
| XSE720E20.750D3R030Z6 | 10138216    | 3            | D          | E20   | 0.750 | 0.728  | 1.125 | 1.524 | 0.030 | 6     | 16,0 | ■     |
| XSE720E20.750D3R060Z6 | 10138217    | 3            | D          | E20   | 0.750 | 0.728  | 1.125 | 1.524 | 0.060 | 6     | 16,0 | ■     |
| XSE720E20.750D3R120Z6 | 10138218    | 3            | D          | E20   | 0.750 | 0.728  | 1.125 | 1.524 | 0.120 | 6     | 16,0 | ■     |
| XSE720E251.00D3SZ6    | 10138208    | 3            | D          | E25   | 1.000 | 0.965  | 1.500 | 1.980 | —     | 6     | 20,0 | ■     |
| XSE720E251.00D3R030Z6 | 10138219    | 3            | D          | E25   | 1.000 | 0.965  | 1.500 | 1.980 | 0.030 | 6     | 20,0 | ■     |
| XSE720E251.00D3R060Z6 | 10138220    | 3            | D          | E25   | 1.000 | 0.965  | 1.500 | 1.980 | 0.060 | 6     | 20,0 | ■     |
| XSE720E251.00D3R120Z6 | 10138221    | 3            | D          | E25   | 1.000 | 0.965  | 1.500 | 1.980 | 0.120 | 6     | 20,0 | ■     |

■ Stocked standard.

## Cutting data – XSE720 Side milling

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$           |                 |                 |                 |                 | $v_c$                              |                                 |
|-----|-----------------------------------------------------------------------------------|----------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|---------------------------------|
|     |                                                                                   |                |            | 10              | 12              | 16              | 20              | 25              |                                    |                                 |
| P1  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,13<br>0.0050  | 0,15<br>0.0060  | 230 (180 — 280)<br>750 (600 — 910) | Universal                       |
| P2  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,15<br>0.0060  | 220 (170 — 270)<br>720 (560 — 880) |                                 |
| P3  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 195 (150 — 230)<br>640 (500 — 750) | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,14<br>0.0055  | 170 (130 — 200)<br>560 (430 — 650) |                                 |
| P5  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,11<br>0.0044  | 130 (100 — 160)<br>425 (330 — 520) | Stainless steel and S-materials |
| P6  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,11<br>0.0044  | 145 (120 — 190)<br>475 (400 — 620) |                                 |
| P7  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,11<br>0.0044  | 140 (110 — 180)<br>460 (370 — 590) | Non ferrous                     |
| P8  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,12<br>0.0048  | 130 (100 — 160)<br>425 (330 — 520) |                                 |
| P11 | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,13<br>0.0050  | 130 (110 — 170)<br>425 (370 — 550) | Hard                            |
| P12 | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,090<br>0.0036 | 95 (80 — 100)<br>310 (270 — 320)   |                                 |
| M1  | E/M/A                                                                             | 0,12<br>0,12   | 1,4<br>1,4 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 170 (150 — 190)<br>560 (500 — 620) | Plastic and cf/p                |
| M2  | E/M/A                                                                             | 0,12<br>0,12   | 1,4<br>1,4 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,13<br>0.0050  | 140 (120 — 150)<br>460 (400 — 490) |                                 |
| M3  | E/M/A                                                                             | 0,10<br>0,10   | 1,4<br>1,4 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 120 (100 — 130)<br>395 (330 — 420) | Graphite                        |
| M4  | E/M/A                                                                             | 0,10<br>0,10   | 1,4<br>1,4 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,10<br>0.0040  | 90 (77 — 100)<br>295 (260 — 320)   |                                 |
| M5  | E/M/A                                                                             | 0,10<br>0,10   | 1,4<br>1,4 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,10<br>0.0040  | 75 (64 — 88)<br>245 (210 — 280)    | X-Heads                         |
| S1  | E                                                                                 | 0,060<br>0.060 | 1,4<br>1,4 | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,090<br>0.0036 | 45 (35 — 54)<br>150 (120 — 170)    |                                 |
| S2  | E                                                                                 | 0,060<br>0.060 | 1,4<br>1,4 | 0,042<br>0.0017 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,080<br>0.0032 | 35 (25 — 44)<br>115 (83 — 140)     | Minimaster                      |
| S3  | E                                                                                 | 0,060<br>0.060 | 1,4<br>1,4 | 0,042<br>0.0017 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,080<br>0.0032 | 30 (20 — 39)<br>100 (66 — 120)     |                                 |
| S11 | E                                                                                 | 0,10<br>0,10   | 1,4<br>1,4 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,11<br>0.0044  | 105 (78 — 120)<br>345 (260 — 390)  | X-Heads                         |
| S12 | E                                                                                 | 0,10<br>0,10   | 1,4<br>1,4 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,11<br>0.0044  | 80 (60 — 99)<br>260 (200 — 320)    |                                 |
| S13 | E                                                                                 | 0,10<br>0,10   | 1,4<br>1,4 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 65 (48 — 79)<br>215 (160 — 250)    | X-Heads                         |
|     |                                                                                   |                |            |                 |                 |                 |                 |                 |                                    |                                 |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

#### Cutting data – XSE720 advanced roughing

|                                 | SMG |  | $a_p/DC$   | $f_z$           |                 |                 |                 |                 | $v_c$                              |
|---------------------------------|-----|-----------------------------------------------------------------------------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|                                 |     |                                                                                   |            | 10              | 12              | 16              | 20              | 25              |                                    |
| Universal                       | P1  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 0,17<br>0.0065  | 0,19<br>0.0075  | 245 (190 — 300)<br>800 (630 — 980) |
|                                 | P2  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 0,18<br>0.0070  | 0,20<br>0.0080  | 240 (190 — 290)<br>790 (630 — 950) |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,17<br>0.0065  | 0,19<br>0.0075  | 205 (160 — 250)<br>670 (530 — 820) |
|                                 | P4  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 0,18<br>0.0070  | 185 (140 — 220)<br>610 (460 — 720) |
|                                 | P5  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 140 (110 — 180)<br>460 (370 — 590) |
|                                 | P6  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 155 (130 — 200)<br>510 (430 — 650) |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 150 (120 — 190)<br>490 (400 — 620) |
|                                 | P8  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,15<br>0.0060  | 140 (110 — 180)<br>460 (370 — 590) |
|                                 | P11 | E/M/A/D                                                                           | 1,4<br>1.4 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 0,17<br>0.0065  | 140 (110 — 180)<br>460 (370 — 590) |
|                                 | P12 | E/M/A/D                                                                           | 1,4<br>1.4 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 100 (86 — 110)<br>330 (290 — 360)  |
| Non ferrous                     | M1  | E/M/A                                                                             | 1,4<br>1.4 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 0,17<br>0.0065  | 0,19<br>0.0075  | 180 (160 — 200)<br>590 (530 — 650) |
|                                 | M2  | E/M/A                                                                             | 1,4<br>1.4 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 0,17<br>0.0065  | 150 (130 — 170)<br>490 (430 — 550) |
|                                 | M3  | E/M/A                                                                             | 1,4<br>1.4 | 0,075<br>0.0030 | 0,085<br>0.0034 | 0,11<br>0.0044  | 0,12<br>0.0048  | 0,14<br>0.0055  | 125 (110 — 140)<br>410 (370 — 450) |
|                                 | M4  | E/M/A                                                                             | 1,4<br>1.4 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,12<br>0.0048  | 95 (80 — 110)<br>310 (270 — 360)   |
| Hard                            | M5  | E/M/A                                                                             | 1,4<br>1.4 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,12<br>0.0048  | 80 (67 — 92)<br>260 (220 — 300)    |
|                                 | S1  | E                                                                                 | 1,4<br>1.4 | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,085<br>0.0034 | 44 (35 — 53)<br>145 (120 — 170)    |
|                                 | S2  | E                                                                                 | 1,4<br>1.4 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,075<br>0.0030 | 34 (25 — 43)<br>110 (83 — 140)     |
|                                 | S3  | E                                                                                 | 1,4<br>1.4 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,075<br>0.0030 | 29 (20 — 39)<br>95 (66 — 120)      |
| Plastic and cfrp                | S11 | E                                                                                 | 1,4<br>1.4 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 110 (82 — 130)<br>360 (270 — 420)  |
|                                 | S12 | E                                                                                 | 1,4<br>1.4 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 85 (63 — 100)<br>280 (210 — 320)   |
|                                 | S13 | E                                                                                 | 1,4<br>1.4 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 65 (50 — 83)<br>215 (170 — 270)    |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values



## Cutting data – XSE720 Side milling inch

| SMG |  | $a_e/DC$       | $a_p/DC$   | $f_z$           |                 |                 |                 |                 | $v_c$                               |                                 |
|-----|-----------------------------------------------------------------------------------|----------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------------------------|---------------------------------|
|     |                                                                                   |                |            | 3/8             | 1/2             | 5/8             | 3/4             | 1               |                                     |                                 |
| P1  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,13<br>0.0050  | 0,15<br>0.0060  | 265 (200 — 320)<br>870 (660 — 1000) | Universal                       |
| P2  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,15<br>0.0060  | 255 (200 — 320)<br>840 (660 — 1000) |                                 |
| P3  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 225 (170 — 270)<br>740 (560 — 880)  | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,14<br>0.0055  | 195 (150 — 240)<br>640 (500 — 780)  |                                 |
| P5  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,11<br>0.0044  | 160 (120 — 190)<br>520 (400 — 620)  | Stainless steel and S-materials |
| P6  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,11<br>0.0044  | 180 (140 — 220)<br>590 (460 — 720)  |                                 |
| P7  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,11<br>0.0044  | 170 (130 — 210)<br>560 (430 — 680)  | Non ferrous                     |
| P8  | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,12<br>0.0048  | 160 (120 — 190)<br>520 (400 — 620)  |                                 |
| P11 | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,13<br>0.0050  | 160 (130 — 200)<br>520 (430 — 650)  | Hard                            |
| P12 | E/M/A/D                                                                           | 0,12<br>0,12   | 1,4<br>1,4 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,090<br>0.0036 | 95 (80 — 100)<br>310 (270 — 320)    |                                 |
| M1  | E/M/A                                                                             | 0,12<br>0,12   | 1,4<br>1,4 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 170 (150 — 190)<br>560 (500 — 620)  | Plastic and cf/p                |
| M2  | E/M/A                                                                             | 0,12<br>0,12   | 1,4<br>1,4 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,13<br>0.0050  | 140 (120 — 150)<br>460 (400 — 490)  |                                 |
| M3  | E/M/A                                                                             | 0,10<br>0,10   | 1,4<br>1,4 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 120 (100 — 110)<br>395 (330 — 360)  | Graphite                        |
| M4  | E/M/A                                                                             | 0,10<br>0,10   | 1,4<br>1,4 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,10<br>0.0040  | 90 (77 — 91)<br>295 (260 — 290)     |                                 |
| M5  | E/M/A                                                                             | 0,10<br>0,10   | 1,4<br>1,4 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,10<br>0.0040  | 75 (64 — 76)<br>245 (210 — 240)     | X-Heads                         |
| S1  | E                                                                                 | 0,060<br>0.060 | 1,4<br>1,4 | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,090<br>0.0036 | 45 (35 — 54)<br>150 (120 — 170)     |                                 |
| S2  | E                                                                                 | 0,060<br>0.060 | 1,4<br>1,4 | 0,042<br>0.0017 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,080<br>0.0032 | 35 (25 — 44)<br>115 (83 — 140)      | Minimaster                      |
| S3  | E                                                                                 | 0,060<br>0.060 | 1,4<br>1,4 | 0,042<br>0.0017 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,080<br>0.0032 | 30 (20 — 39)<br>100 (66 — 120)      |                                 |
| S11 | E                                                                                 | 0,10<br>0,10   | 1,4<br>1,4 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,11<br>0.0044  | 105 (78 — 120)<br>345 (260 — 390)   | X-Heads                         |
| S12 | E                                                                                 | 0,10<br>0,10   | 1,4<br>1,4 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,11<br>0.0044  | 80 (60 — 99)<br>260 (200 — 320)     |                                 |
| S13 | E                                                                                 | 0,10<br>0,10   | 1,4<br>1,4 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 65 (48 — 79)<br>215 (160 — 250)     |                                 |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – XSE720 advanced roughing inch

|                                 | SMG |  | $a_p/DC$   | $f_z$           |                 |                 |                 |                 | $v_c$                               |
|---------------------------------|-----|-----------------------------------------------------------------------------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------------------------|
|                                 |     |                                                                                   |            | 3/8             | 1/2             | 5/8             | 3/4             | 1               |                                     |
| Universal                       | P1  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 0,17<br>0.0065  | 0,19<br>0.0075  | 285 (220 — 350)<br>940 (730 — 1100) |
|                                 | P2  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 0,18<br>0.0070  | 0,20<br>0.0080  | 275 (210 — 340)<br>900 (690 — 1100) |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,17<br>0.0065  | 0,19<br>0.0075  | 240 (180 — 290)<br>790 (600 — 950)  |
|                                 | P4  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 0,18<br>0.0070  | 210 (160 — 260)<br>690 (530 — 850)  |
|                                 | P5  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 175 (130 — 210)<br>570 (430 — 680)  |
|                                 | P6  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 195 (150 — 240)<br>640 (500 — 780)  |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 185 (140 — 220)<br>610 (460 — 720)  |
|                                 | P8  | E/M/A/D                                                                           | 1,4<br>1.4 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,15<br>0.0060  | 170 (130 — 210)<br>560 (430 — 680)  |
|                                 | P11 | E/M/A/D                                                                           | 1,4<br>1.4 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 0,17<br>0.0065  | 170 (130 — 210)<br>560 (430 — 680)  |
|                                 | P12 | E/M/A/D                                                                           | 1,4<br>1.4 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 100 (86 — 110)<br>330 (290 — 360)   |
| Non ferrous                     | M1  | E/M/A                                                                             | 1,4<br>1.4 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 0,17<br>0.0065  | 0,19<br>0.0075  | 180 (160 — 200)<br>590 (530 — 650)  |
|                                 | M2  | E/M/A                                                                             | 1,4<br>1.4 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 0,17<br>0.0065  | 150 (130 — 170)<br>490 (430 — 550)  |
|                                 | M3  | E/M/A                                                                             | 1,4<br>1.4 | 0,075<br>0.0030 | 0,085<br>0.0034 | 0,11<br>0.0044  | 0,12<br>0.0048  | 0,14<br>0.0055  | 125 (110 — 120)<br>410 (370 — 390)  |
|                                 | M4  | E/M/A                                                                             | 1,4<br>1.4 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,12<br>0.0048  | 95 (80 — 95)<br>310 (270 — 310)     |
| Hard                            | M5  | E/M/A                                                                             | 1,4<br>1.4 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,12<br>0.0048  | 80 (67 — 79)<br>260 (220 — 250)     |
| Plastic and cfrp                | S1  | E                                                                                 | 1,4<br>1.4 | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,085<br>0.0034 | 44 (35 — 53)<br>145 (120 — 170)     |
|                                 | S2  | E                                                                                 | 1,4<br>1.4 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,075<br>0.0030 | 34 (25 — 43)<br>110 (83 — 140)      |
|                                 | S3  | E                                                                                 | 1,4<br>1.4 | 0,040<br>0.0016 | 0,048<br>0.0019 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,075<br>0.0030 | 29 (20 — 39)<br>95 (66 — 120)       |
|                                 | S11 | E                                                                                 | 1,4<br>1.4 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 110 (82 — 130)<br>360 (270 — 420)   |
|                                 | S12 | E                                                                                 | 1,4<br>1.4 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,14<br>0.0055  | 85 (63 — 100)<br>280 (210 — 320)    |
|                                 | S13 | E                                                                                 | 1,4<br>1.4 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 0,12<br>0.0048  | 65 (50 — 83)<br>215 (170 — 270)     |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

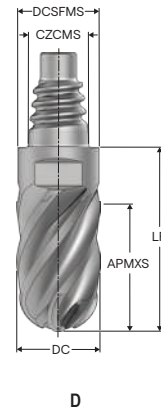
 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

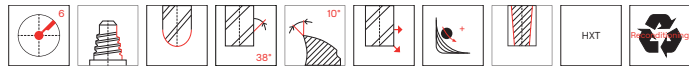
All cutting data are target values

#### XSB720

High performance – Superalloy – Ball nose – 6 Flutes



- Tolerances:
- DC= e7
- RE=  $\pm 0,02$  mm
- Regrind possible if DC is  $\geq \varnothing 12$  mm



| Designation       | Item number | Length index | Tool shape | CZCMS | DC   | DCSFMS | APMXS | LF   | RE   | PCEDC | SW   | Grade |
|-------------------|-------------|--------------|------------|-------|------|--------|-------|------|------|-------|------|-------|
|                   |             |              |            |       | mm   | mm     | mm    | mm   | mm   |       |      | HXT   |
| XSB720E10100D3BZ6 | 10138222    | 3            | D          | E10   | 10,0 | 9,7    | 15,0  | 21,8 | 5,0  | 6     | 8,0  | ■     |
| XSB720E12120D3BZ6 | 10138223    | 3            | D          | E12   | 12,0 | 11,7   | 18,0  | 25,9 | 6,0  | 6     | 10,0 | ■     |
| XSB720E16160D3BZ6 | 10138224    | 3            | D          | E16   | 16,0 | 15,5   | 24,0  | 34,1 | 8,0  | 6     | 12,0 | ■     |
| XSB720E20200D3BZ6 | 10138225    | 3            | D          | E20   | 20,0 | 19,3   | 30,0  | 40,2 | 10,0 | 6     | 16,0 | ■     |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

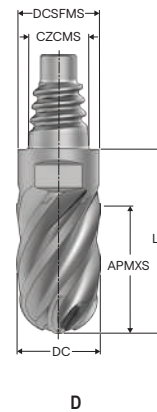
Graphite

X-Heads

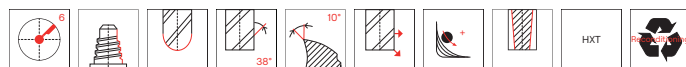
Minimaster

#### XSB720

High performance – Superalloy – Ball nose – 6 Flutes – Inch



—Tolerances:  
—DC= e7  
—RE= ±.0008 Inch  
—Regrind possible if DC is ≥Ø.500 Inch



| Designation         | Item number | Length index | Tool shape | CZCMS | DC    | DCSFMS | APMXS | LF    | RE    | PCEDC | SW   | Grade |
|---------------------|-------------|--------------|------------|-------|-------|--------|-------|-------|-------|-------|------|-------|
|                     |             |              |            |       | Inch  | Inch   | Inch  | Inch  | Inch  |       |      | HXT   |
| XSB720E10.375D3BZ6  | 10138226    | 3            | D          | E10   | 0.375 | 0.364  | 0.563 | 0.827 | 0.188 | 6     | 8,0  | ■     |
| XSB720E12.500D3BZ6  | 10138227    | 3            | D          | E12   | 0.500 | 0.484  | 0.750 | 1.055 | 0.250 | 6     | 10,0 | ■     |
| XSB720E16.625D3BZ6  | 10138228    | 3            | D          | E16   | 0.625 | 0.610  | 0.938 | 1.343 | 0.313 | 6     | 12,0 | ■     |
| XSB720E20.750D3BZ6  | 10138229    | 3            | D          | E20   | 0.750 | 0.728  | 1.125 | 1.524 | 0.375 | 6     | 16,0 | ■     |
| XSB720E25.1.00D3BZ6 | 10138230    | 3            | D          | E25   | 1.000 | 0.965  | 1.500 | 1.980 | 0.500 | 6     | 20,0 | ■     |

■ Stocked standard.

## Cutting data – XSB720 Side milling

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 | v <sub>c</sub>                     |                                 |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|---------------------------------|
|     |                                                                                   |                    |                    | 10              | 12              | 16              | 20              |                                    |                                 |
| P1  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 185 (150 — 140)<br>610 (500 — 450) | Universal                       |
| P2  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 0,17<br>0.0065  | 175 (140 — 130)<br>570 (460 — 420) |                                 |
| P3  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 155 (120 — 110)<br>510 (400 — 360) | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,16<br>0.0065  | 135 (110 — 100)<br>445 (370 — 320) |                                 |
| P5  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 130 (110 — 100)<br>425 (370 — 320) | Stainless steel and S-materials |
| P6  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 145 (120 — 110)<br>475 (400 — 360) |                                 |
| P7  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 140 (110 — 100)<br>460 (370 — 320) | Stainless steel and S-materials |
| P8  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 130 (99 — 98)<br>425 (330 — 320)   |                                 |
| P11 | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,12<br>0.0048  | 140 (110 — 100)<br>460 (370 — 320) | Non ferrous                     |
| P12 | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 85 (68 — 67)<br>280 (230 — 210)    |                                 |
| M1  | E/M/A                                                                             | 0,12<br>0.12       | 1,2<br>1.2         | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 170 (150 — 190)<br>560 (500 — 620) | Hard                            |
| M2  | E/M/A                                                                             | 0,12<br>0.12       | 1,2<br>1.2         | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 140 (120 — 160)<br>460 (400 — 520) |                                 |
| M3  | E/M/A                                                                             | 0,10<br>0.10       | 1,2<br>1.2         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 120 (110 — 140)<br>395 (370 — 450) | Plastic and cf rp               |
| M4  | E/M/A                                                                             | 0,10<br>0.10       | 1,2<br>1.2         | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 90 (77 — 100)<br>295 (260 — 320)   |                                 |
| M5  | E/M/A                                                                             | 0,10<br>0.10       | 1,2<br>1.2         | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 75 (65 — 89)<br>245 (220 — 290)    | Graphite                        |
| S1  | E                                                                                 | 0,070<br>0.070     | 1,2<br>1.2         | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 45 (35 — 54)<br>150 (120 — 170)    |                                 |
| S2  | E                                                                                 | 0,070<br>0.070     | 1,2<br>1.2         | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 35 (5 — 45)<br>115 (17 — 140)      | X-Heads                         |
| S3  | E                                                                                 | 0,070<br>0.070     | 1,2<br>1.2         | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 30 (20 — 40)<br>100 (66 — 130)     |                                 |
| S11 | E                                                                                 | 0,10<br>0.10       | 1,2<br>1.2         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 105 (79 — 130)<br>345 (260 — 420)  | Minimaster                      |
| S12 | E                                                                                 | 0,10<br>0.10       | 1,2<br>1.2         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 80 (61 — 100)<br>260 (210 — 320)   |                                 |
| S13 | E                                                                                 | 0,10<br>0.10       | 1,2<br>1.2         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 60 (47 — 77)<br>195 (160 — 250)    |                                 |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

Cutting data – XSB720 Side milling advanced roughing  $a_e/DC=0,07$ 

|                                 | SMG |  | $a_p/DC$ | $f_z$  |        |        |        | $v_c$           |
|---------------------------------|-----|-----------------------------------------------------------------------------------|----------|--------|--------|--------|--------|-----------------|
|                                 |     |                                                                                   |          | 10     | 12     | 16     | 20     |                 |
| Universal                       | P1  | E/M/A/D                                                                           | 1,2      | 0,12   | 0,14   | 0,18   | 0,22   | 195 (160 — 150) |
|                                 |     |                                                                                   | 1,2      | 0.0048 | 0.0055 | 0.0070 | 0.0085 | 640 (530 — 490) |
| Steel and cast iron             | P2  | E/M/A/D                                                                           | 1,2      | 0,12   | 0,14   | 0,19   | 0,22   | 190 (150 — 140) |
|                                 |     |                                                                                   | 1,2      | 0.0048 | 0.0055 | 0.0075 | 0.0085 | 620 (500 — 450) |
|                                 | P3  | E/M/A/D                                                                           | 1,2      | 0,12   | 0,14   | 0,18   | 0,20   | 165 (130 — 120) |
|                                 |     |                                                                                   | 1,2      | 0.0048 | 0.0055 | 0.0070 | 0.0080 | 540 (430 — 390) |
|                                 | P4  | E/M/A/D                                                                           | 1,2      | 0,12   | 0,14   | 0,17   | 0,20   | 145 (120 — 110) |
| Stainless steel and S-materials |     |                                                                                   | 1,2      | 0.0048 | 0.0055 | 0.0065 | 0.0080 | 475 (400 — 360) |
|                                 | P5  | E/M/A/D                                                                           | 1,2      | 0,12   | 0,14   | 0,17   | 0,20   | 140 (110 — 100) |
|                                 |     |                                                                                   | 1,2      | 0.0048 | 0.0055 | 0.0065 | 0.0080 | 460 (370 — 320) |
|                                 | P6  | E/M/A/D                                                                           | 1,2      | 0,11   | 0,14   | 0,17   | 0,19   | 160 (130 — 120) |
|                                 |     |                                                                                   | 1,2      | 0.0044 | 0.0055 | 0.0065 | 0.0075 | 520 (430 — 390) |
|                                 | P7  | E/M/A/D                                                                           | 1,2      | 0,11   | 0,14   | 0,17   | 0,19   | 150 (120 — 110) |
|                                 |     |                                                                                   | 1,2      | 0.0044 | 0.0055 | 0.0065 | 0.0075 | 490 (400 — 360) |
|                                 | P8  | E/M/A/D                                                                           | 1,2      | 0,12   | 0,14   | 0,18   | 0,20   | 140 (110 — 100) |
|                                 |     |                                                                                   | 1,2      | 0.0048 | 0.0055 | 0.0070 | 0.0080 | 460 (370 — 320) |
|                                 | P11 | E/M/A/D                                                                           | 1,2      | 0,090  | 0,11   | 0,13   | 0,15   | 150 (120 — 110) |
|                                 |     |                                                                                   | 1,2      | 0.0036 | 0.0044 | 0.0050 | 0.0060 | 490 (400 — 360) |
|                                 | P12 | E/M/A/D                                                                           | 1,2      | 0,060  | 0,070  | 0,090  | 0,10   | 95 (73 — 72)    |
| Non ferrous                     |     |                                                                                   | 1,2      | 0.0024 | 0.0028 | 0.0036 | 0.0040 | 310 (240 — 230) |
|                                 | M1  | E/M/A                                                                             | 1,2      | 0,10   | 0,12   | 0,15   | 0,17   | 185 (160 — 200) |
|                                 |     |                                                                                   | 1,2      | 0.0040 | 0.0048 | 0.0060 | 0.0065 | 610 (530 — 650) |
|                                 | M2  | E/M/A                                                                             | 1,2      | 0,090  | 0,11   | 0,13   | 0,15   | 150 (130 — 170) |
|                                 |     |                                                                                   | 1,2      | 0.0036 | 0.0044 | 0.0050 | 0.0060 | 490 (430 — 550) |
| Hard                            | M3  | E/M/A                                                                             | 1,2      | 0,070  | 0,085  | 0,10   | 0,12   | 125 (110 — 140) |
|                                 |     |                                                                                   | 1,2      | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 410 (370 — 450) |
|                                 | M4  | E/M/A                                                                             | 1,2      | 0,060  | 0,075  | 0,090  | 0,10   | 95 (81 — 110)   |
|                                 |     |                                                                                   | 1,2      | 0.0024 | 0.0030 | 0.0036 | 0.0040 | 310 (270 — 360) |
|                                 | M5  | E/M/A                                                                             | 1,2      | 0,060  | 0,075  | 0,090  | 0,10   | 80 (68 — 93)    |
| Plastic and cfrp                |     |                                                                                   | 1,2      | 0.0024 | 0.0030 | 0.0036 | 0.0040 | 260 (230 — 300) |
|                                 | S1  | E                                                                                 | 1,2      | 0,048  | 0,055  | 0,070  | 0,080  | 45 (35 — 54)    |
|                                 |     |                                                                                   | 1,2      | 0.0019 | 0.0022 | 0.0028 | 0.0032 | 150 (120 — 170) |
|                                 | S2  | E                                                                                 | 1,2      | 0,048  | 0,055  | 0,070  | 0,080  | 35 (5 — 45)     |
|                                 |     |                                                                                   | 1,2      | 0.0019 | 0.0022 | 0.0028 | 0.0032 | 115 (17 — 140)  |
|                                 | S3  | E                                                                                 | 1,2      | 0,048  | 0,055  | 0,070  | 0,080  | 30 (20 — 40)    |
|                                 |     |                                                                                   | 1,2      | 0.0019 | 0.0022 | 0.0028 | 0.0032 | 100 (66 — 130)  |
|                                 | S11 | E                                                                                 | 1,2      | 0,070  | 0,085  | 0,10   | 0,12   | 110 (82 — 130)  |
|                                 |     |                                                                                   | 1,2      | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 360 (270 — 420) |
| Minimaster                      | S12 | E                                                                                 | 1,2      | 0,070  | 0,085  | 0,10   | 0,12   | 85 (63 — 100)   |
|                                 |     |                                                                                   | 1,2      | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 280 (210 — 320) |
|                                 | S13 | E                                                                                 | 1,2      | 0,070  | 0,085  | 0,10   | 0,12   | 65 (49 — 81)    |
|                                 |     |                                                                                   | 1,2      | 0.0028 | 0.0034 | 0.0040 | 0.0048 | 215 (170 — 260) |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – XSB720 Side milling inch

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 | v <sub>c</sub>                     |                                 |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|---------------------------------|
|     |                                                                                   |                    |                    | 3/8             | 1/2             | 5/8             | 3/4             |                                    |                                 |
| P1  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 195 (170 — 220)<br>640 (560 — 720) | Universal                       |
| P2  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 0,17<br>0.0065  | 190 (170 — 210)<br>620 (560 — 680) |                                 |
| P3  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 165 (150 — 180)<br>540 (500 — 590) | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,16<br>0.0065  | 145 (130 — 160)<br>475 (430 — 520) |                                 |
| P5  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 140 (130 — 160)<br>460 (430 — 520) | Stainless steel and S-materials |
| P6  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 155 (140 — 170)<br>510 (460 — 550) |                                 |
| P7  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 150 (130 — 160)<br>490 (430 — 520) | Non ferrous                     |
| P8  | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,095<br>0.0038 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,16<br>0.0065  | 140 (120 — 150)<br>460 (400 — 490) |                                 |
| P11 | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,12<br>0.0048  | 150 (130 — 170)<br>490 (430 — 550) | Hard                            |
| P12 | E/M/A/D                                                                           | 0,12<br>0.12       | 1,2<br>1.2         | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 95 (81 — 100)<br>310 (270 — 320)   |                                 |
| M1  | E/M/A                                                                             | 0,12<br>0.12       | 1,2<br>1.2         | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 220 (180 — 260)<br>720 (600 — 850) | Plastic and cf/p                |
| M2  | E/M/A                                                                             | 0,12<br>0.12       | 1,2<br>1.2         | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 180 (140 — 220)<br>590 (460 — 720) |                                 |
| M3  | E/M/A                                                                             | 0,10<br>0.10       | 1,2<br>1.2         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 160 (120 — 200)<br>520 (400 — 650) | Graphite                        |
| M4  | E/M/A                                                                             | 0,10<br>0.10       | 1,2<br>1.2         | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 125 (93 — 150)<br>410 (310 — 490)  |                                 |
| M5  | E/M/A                                                                             | 0,10<br>0.10       | 1,2<br>1.2         | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 105 (77 — 120)<br>345 (260 — 390)  | X-Heads                         |
| S1  | E                                                                                 | 0,070<br>0.070     | 1,2<br>1.2         | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 45 (35 — 54)<br>150 (120 — 170)    |                                 |
| S2  | E                                                                                 | 0,070<br>0.070     | 1,2<br>1.2         | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 37 (27 — 47)<br>120 (89 — 150)     | Minimaster                      |
| S3  | E                                                                                 | 0,070<br>0.070     | 1,2<br>1.2         | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 30 (20 — 40)<br>100 (66 — 130)     |                                 |
| S11 | E                                                                                 | 0,10<br>0.10       | 1,2<br>1.2         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 80 (61 — 100)<br>260 (210 — 320)   |                                 |
| S12 | E                                                                                 | 0,10<br>0.10       | 1,2<br>1.2         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 80 (61 — 100)<br>260 (210 — 320)   |                                 |
| S13 | E                                                                                 | 0,10<br>0.10       | 1,2<br>1.2         | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 80 (61 — 100)<br>260 (210 — 320)   |                                 |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – XSB720 Side milling advanced roughing $a_e/DC=0,07$ inch

| SMG |  | $a_p/DC$   | $f_z$           |                 |                 |                 | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|------------|-----------------|-----------------|-----------------|-----------------|------------------------------------|
|     |                                                                                   |            | 3/8             | 1/2             | 5/8             | 3/4             |                                    |
| P1  | E/M/A/D                                                                           | 1,2<br>1,2 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,18<br>0.0070  | 0,22<br>0.0085  | 210 (190 — 240)<br>690 (630 — 780) |
| P2  | E/M/A/D                                                                           | 1,2<br>1,2 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,19<br>0.0075  | 0,22<br>0.0085  | 205 (180 — 230)<br>670 (600 — 750) |
| P3  | E/M/A/D                                                                           | 1,2<br>1,2 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,18<br>0.0070  | 0,20<br>0.0080  | 180 (160 — 200)<br>590 (530 — 650) |
| P4  | E/M/A/D                                                                           | 1,2<br>1,2 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,17<br>0.0065  | 0,20<br>0.0080  | 155 (140 — 170)<br>510 (460 — 550) |
| P5  | E/M/A/D                                                                           | 1,2<br>1,2 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,17<br>0.0065  | 0,20<br>0.0080  | 150 (130 — 170)<br>490 (430 — 550) |
| P6  | E/M/A/D                                                                           | 1,2<br>1,2 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,17<br>0.0065  | 0,19<br>0.0075  | 170 (150 — 190)<br>560 (500 — 620) |
| P7  | E/M/A/D                                                                           | 1,2<br>1,2 | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,17<br>0.0065  | 0,19<br>0.0075  | 160 (140 — 180)<br>520 (460 — 590) |
| P8  | E/M/A/D                                                                           | 1,2<br>1,2 | 0,12<br>0.0048  | 0,14<br>0.0055  | 0,18<br>0.0070  | 0,20<br>0.0080  | 150 (130 — 170)<br>490 (430 — 550) |
| P11 | E/M/A/D                                                                           | 1,2<br>1,2 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 160 (140 — 180)<br>520 (460 — 590) |
| P12 | E/M/A/D                                                                           | 1,2<br>1,2 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 | 0,10<br>0.0040  | 100 (87 — 110)<br>330 (290 — 360)  |
| M1  | E/M/A                                                                             | 1,2<br>1,2 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 0,17<br>0.0065  | 235 (190 — 280)<br>770 (630 — 910) |
| M2  | E/M/A                                                                             | 1,2<br>1,2 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,15<br>0.0060  | 195 (160 — 230)<br>640 (530 — 750) |
| M3  | E/M/A                                                                             | 1,2<br>1,2 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 170 (130 — 200)<br>560 (430 — 650) |
| M4  | E/M/A                                                                             | 1,2<br>1,2 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 130 (97 — 160)<br>425 (320 — 520)  |
| M5  | E/M/A                                                                             | 1,2<br>1,2 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,10<br>0.0040  | 105 (81 — 130)<br>345 (270 — 420)  |
| S1  | E                                                                                 | 1,2<br>1,2 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 45 (35 — 54)<br>150 (120 — 170)    |
| S2  | E                                                                                 | 1,2<br>1,2 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 37 (27 — 47)<br>120 (89 — 150)     |
| S3  | E                                                                                 | 1,2<br>1,2 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,080<br>0.0032 | 30 (20 — 40)<br>100 (66 — 130)     |
| S11 | E                                                                                 | 1,2<br>1,2 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 85 (63 — 100)<br>280 (210 — 320)   |
| S12 | E                                                                                 | 1,2<br>1,2 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 85 (63 — 100)<br>280 (210 — 320)   |
| S13 | E                                                                                 | 1,2<br>1,2 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,12<br>0.0048  | 85 (63 — 100)<br>280 (210 — 320)   |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

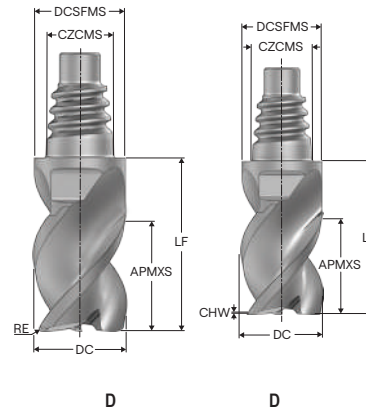
$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

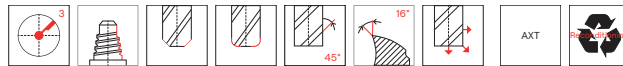


## XSE450

High performance – Aluminium – Square – 3 Flutes – Corner radius or chamfer



- Tolerances:
- DC= 0/-0,0508 mm
- RE= ±0,0254 mm
- Regrind possible if DC is ≥Ø12 mm



| Designation          | Item number | Length index | Tool shape | CZCMS | DC   | DCSFMS | APMXS | LF   | CHW | RE  | PCEDC | SW   | Grade |
|----------------------|-------------|--------------|------------|-------|------|--------|-------|------|-----|-----|-------|------|-------|
|                      |             |              |            |       | mm   | mm     | mm    | mm   | mm  | mm  |       |      | AXT   |
| XSE450E10100D2CZ3    | 10271542    | 2            | D          | E10   | 10,0 | 9,7    | 12,0  | 18,7 | 0,1 | –   | 3     | 8,0  | ■     |
| XSE450E10100D2R100Z3 | 10271547    | 2            | D          | E10   | 10,0 | 9,7    | 12,0  | 18,7 | –   | 1,0 | 3     | 8,0  | ■     |
| XSE450E10100D2R050Z3 | 10138362    | 2            | D          | E10   | 10,0 | 9,7    | 12,0  | 18,7 | –   | 0,5 | 3     | 8,0  | ■     |
| XSE450E12120D2CZ3    | 10271543    | 2            | D          | E12   | 12,0 | 11,7   | 14,4  | 22,1 | 0,1 | –   | 3     | 10,0 | ■     |
| XSE450E12120D2R300Z3 | 10271551    | 2            | D          | E12   | 12,0 | 11,7   | 14,4  | 22,1 | –   | 3,0 | 3     | 10,0 | ■     |
| XSE450E12120D2R050Z3 | 10138363    | 2            | D          | E12   | 12,0 | 11,7   | 14,4  | 22,1 | –   | 0,5 | 3     | 10,0 | ■     |
| XSE450E12120D2R100Z3 | 10138364    | 2            | D          | E12   | 12,0 | 11,7   | 14,4  | 22,1 | –   | 1,0 | 3     | 10,0 | ■     |
| XSE450E16160D2CZ3    | 10271544    | 2            | D          | E16   | 16,0 | 15,5   | 19,2  | 29,2 | 0,1 | –   | 3     | 12,0 | ■     |
| XSE450E16160D2R300Z3 | 10271553    | 2            | D          | E16   | 16,0 | 15,5   | 19,2  | 29,2 | –   | 3,0 | 3     | 12,0 | ■     |
| XSE450E16160D2R050Z3 | 10138365    | 2            | D          | E16   | 16,0 | 15,5   | 19,2  | 29,2 | –   | 0,5 | 3     | 12,0 | ■     |
| XSE450E16160D2R100Z3 | 10138366    | 2            | D          | E16   | 16,0 | 15,5   | 19,2  | 29,2 | –   | 1,0 | 3     | 12,0 | ■     |
| XSE450E20200D2CZ3    | 10271545    | 2            | D          | E20   | 20,0 | 19,3   | 24,0  | 34,3 | 0,1 | –   | 3     | 16,0 | ■     |
| XSE450E20200D2R300Z3 | 10271555    | 2            | D          | E20   | 20,0 | 19,3   | 24,0  | 34,3 | –   | 3,0 | 3     | 16,0 | ■     |
| XSE450E20200D2R050Z3 | 10138367    | 2            | D          | E20   | 20,0 | 19,3   | 24,0  | 34,3 | –   | 0,5 | 3     | 16,0 | ■     |
| XSE450E20200D2R100Z3 | 10138369    | 2            | D          | E20   | 20,0 | 19,3   | 24,0  | 34,3 | –   | 1,0 | 3     | 16,0 | ■     |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

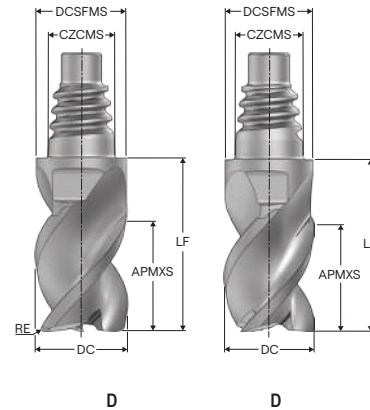
Graphite

X-Heads

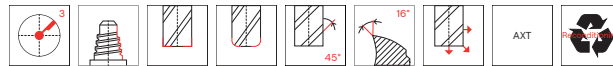
Minimaster

#### XSE450

High performance – Aluminium – Square – 3 Flutes – Sharp or corner radius – Inch



- Tolerances:
- DC= 0/-0.002 Inch
- RE= ±0.001 Inch
- Regrind possible if DC is ≥Ø.500 Inch



| Designation           | Item number | Length index | Tool shape | CZCMS | DC    | DCSFMS | APMXS | LF    | RE    | PCEDC | SW   | Grade |
|-----------------------|-------------|--------------|------------|-------|-------|--------|-------|-------|-------|-------|------|-------|
|                       |             |              |            |       | Inch  | Inch   | Inch  | Inch  | Inch  |       |      | AXT   |
| XSE450E10.375D2R010Z3 | 10271561    | 2            | D          | E10   | 0.375 | 0.364  | 0.450 | 0.720 | 0.010 | 3     | 8,0  | ■     |
| XSE450E10.375D2SZ3    | 10138370    | 2            | D          | E10   | 0.375 | 0.364  | 0.450 | 0.720 | —     | 3     | 8,0  | ■     |
| XSE450E10.375D2R030Z3 | 10138375    | 2            | D          | E10   | 0.375 | 0.364  | 0.450 | 0.720 | 0.030 | 3     | 8,0  | ■     |
| XSE450E12.500D2R010Z3 | 10271562    | 2            | D          | E12   | 0.500 | 0.484  | 0.600 | 0.906 | 0.010 | 3     | 10,0 | ■     |
| XSE450E12.500D2SZ3    | 10138371    | 2            | D          | E12   | 0.500 | 0.484  | 0.600 | 0.906 | —     | 3     | 10,0 | ■     |
| XSE450E12.500D2R030Z3 | 10138376    | 2            | D          | E12   | 0.500 | 0.484  | 0.600 | 0.906 | 0.030 | 3     | 10,0 | ■     |
| XSE450E12.500D2R060Z3 | 10138377    | 2            | D          | E12   | 0.500 | 0.484  | 0.600 | 0.906 | 0.060 | 3     | 10,0 | ■     |
| XSE450E16.625D2SZ3    | 10138372    | 2            | D          | E16   | 0.625 | 0.610  | 0.750 | 1.150 | —     | 3     | 12,0 | ■     |
| XSE450E16.625D2R030Z3 | 10138378    | 2            | D          | E16   | 0.625 | 0.610  | 0.750 | 1.150 | 0.030 | 3     | 12,0 | ■     |
| XSE450E16.625D2R060Z3 | 10138379    | 2            | D          | E16   | 0.625 | 0.610  | 0.750 | 1.150 | 0.060 | 3     | 12,0 | ■     |
| XSE450E16.625D2R120Z3 | 10138380    | 2            | D          | E16   | 0.625 | 0.610  | 0.750 | 1.150 | 0.120 | 3     | 12,0 | ■     |
| XSE450E20.750D2SZ3    | 10138373    | 2            | D          | E20   | 0.750 | 0.728  | 0.900 | 1.295 | —     | 3     | 16,0 | ■     |
| XSE450E20.750D2R030Z3 | 10138381    | 2            | D          | E20   | 0.750 | 0.728  | 0.900 | 1.295 | 0.030 | 3     | 16,0 | ■     |
| XSE450E20.750D2R060Z3 | 10138382    | 2            | D          | E20   | 0.750 | 0.728  | 0.900 | 1.295 | 0.060 | 3     | 16,0 | ■     |
| XSE450E20.750D2R120Z3 | 10138383    | 2            | D          | E20   | 0.750 | 0.728  | 0.900 | 1.295 | 0.120 | 3     | 16,0 | ■     |
| XSE450E251.00D2SZ3    | 10138374    | 2            | D          | E25   | 1.000 | 0.965  | 1.200 | 1.673 | —     | 3     | 20,0 | ■     |
| XSE450E251.00D2R030Z3 | 10138384    | 2            | D          | E25   | 1.000 | 0.965  | 1.200 | 1.673 | 0.030 | 3     | 20,0 | ■     |
| XSE450E251.00D2R060Z3 | 10138385    | 2            | D          | E25   | 1.000 | 0.965  | 1.200 | 1.673 | 0.060 | 3     | 20,0 | ■     |
| XSE450E251.00D2R120Z3 | 10138386    | 2            | D          | E25   | 1.000 | 0.965  | 1.200 | 1.673 | 0.120 | 3     | 20,0 | ■     |

■ Stocked standard.

## Cutting data – XSE450 Side milling

| SMG |  | $a_e/DC$     | $a_p/DC$   | $f_z$          |                |                |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|--------------|------------|----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |              |            | 10             | 12             | 16             | 20             |                                       |
| N1  | E/M/A                                                                             | 0,40<br>0.40 | 1,1<br>1.1 | 0,15<br>0.0060 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,26<br>0.010  | 405 (340 — 450)<br>1325 (1200 — 1400) |
| N2  | E/M/A                                                                             | 0,40<br>0.40 | 1,1<br>1.1 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,20<br>0.0080 | 0,22<br>0.0085 | 275 (230 — 330)<br>900 (760 — 1000)   |
| N3  | E/M/A                                                                             | 0,40<br>0.40 | 1,1<br>1.1 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,20<br>0.0080 | 0,22<br>0.0085 | 185 (150 — 220)<br>610 (500 — 720)    |
| N11 | E/M/A                                                                             | 0,40<br>0.40 | 1,1<br>1.1 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,20<br>0.0080 | 0,22<br>0.0085 | 245 (200 — 290)<br>800 (660 — 950)    |
| TS1 | A/D                                                                               | 0,40<br>0.40 | 1,1<br>1.1 | 0,15<br>0.0060 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,26<br>0.010  | 280 (170 — 390)<br>920 (560 — 1200)   |
| TP1 | A/D                                                                               | 0,40<br>0.40 | 1,1<br>1.1 | 0,15<br>0.0060 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,26<br>0.010  | 280 (170 — 390)<br>920 (560 — 1200)   |

## Cutting data – XSE450 Slot milling

| SMG |  | $a_p/DC$     | $f_z$           |                 |                |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|--------------|-----------------|-----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |              | 10              | 12              | 16             | 20             |                                       |
| N1  | E/M/A                                                                             | 0,48<br>0.48 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,16<br>0.0065 | 0,20<br>0.0080 | 370 (310 — 410)<br>1225 (1100 — 1300) |
| N2  | E/M/A                                                                             | 0,48<br>0.48 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050 | 0,16<br>0.0065 | 255 (210 — 300)<br>840 (690 — 980)    |
| N3  | E/M/A                                                                             | 0,48<br>0.48 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050 | 0,16<br>0.0065 | 170 (140 — 200)<br>560 (460 — 650)    |
| N11 | E/M/A                                                                             | 0,48<br>0.48 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050 | 0,16<br>0.0065 | 225 (190 — 270)<br>740 (630 — 880)    |
| TS1 | A/D                                                                               | 0,48<br>0.48 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,16<br>0.0065 | 0,20<br>0.0080 | 255 (160 — 350)<br>840 (530 — 1100)   |
| TP1 | A/D                                                                               | 0,48<br>0.48 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,16<br>0.0065 | 0,20<br>0.0080 | 255 (160 — 350)<br>840 (530 — 1100)   |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

Universal  
iron

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

#### Cutting data – XSE450 Side milling inch

| SMG |  | $a_e/DC$     | $a_p/DC$   | $f_z$          |                |                |                |               | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|--------------|------------|----------------|----------------|----------------|----------------|---------------|---------------------------------------|
|     |                                                                                   |              |            | 3/8            | 1/2            | 5/8            | 3/4            | 1             |                                       |
| N1  | E/M/A                                                                             | 0,40<br>0.40 | 1,1<br>1.1 | 0,15<br>0.0060 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,26<br>0.010  | 0,30<br>0.012 | 560 (450 — 670)<br>1825 (1500 — 2100) |
| N2  | E/M/A                                                                             | 0,40<br>0.40 | 1,1<br>1.1 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,20<br>0.0080 | 0,22<br>0.0085 | 0,25<br>0.010 | 445 (340 — 550)<br>1450 (1200 — 1800) |
| N3  | E/M/A                                                                             | 0,40<br>0.40 | 1,1<br>1.1 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,20<br>0.0080 | 0,22<br>0.0085 | 0,25<br>0.010 | 295 (230 — 360)<br>970 (760 — 1100)   |
| N11 | E/M/A                                                                             | 0,40<br>0.40 | 1,1<br>1.1 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,20<br>0.0080 | 0,22<br>0.0085 | 0,25<br>0.010 | 395 (300 — 490)<br>1300 (990 — 1600)  |
| TS1 | A/D                                                                               | 0,40<br>0.40 | 1,1<br>1.1 | 0,15<br>0.0060 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,26<br>0.010  | 0,30<br>0.012 | 280 (170 — 390)<br>920 (560 — 1200)   |
| TP1 | A/D                                                                               | 0,40<br>0.40 | 1,1<br>1.1 | 0,15<br>0.0060 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,26<br>0.010  | 0,30<br>0.012 | 280 (170 — 390)<br>920 (560 — 1200)   |

#### Cutting data – XSE450 Slot milling inch

| SMG |  | $a_p/DC$   | $f_z$           |                 |                |                |                | $v_c$                                 |
|-----|-----------------------------------------------------------------------------------|------------|-----------------|-----------------|----------------|----------------|----------------|---------------------------------------|
|     |                                                                                   |            | 3/8             | 1/2             | 5/8            | 3/4            | 1              |                                       |
| N1  | E/M/A                                                                             | 1,1<br>1.1 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,16<br>0.0065 | 0,20<br>0.0080 | 0,25<br>0.010  | 500 (400 — 590)<br>1650 (1400 — 1900) |
| N2  | E/M/A                                                                             | 1,1<br>1.1 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,20<br>0.0080 | 400 (300 — 490)<br>1300 (990 — 1600)  |
| N3  | E/M/A                                                                             | 1,1<br>1.1 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,20<br>0.0080 | 265 (200 — 330)<br>870 (660 — 1000)   |
| N11 | E/M/A                                                                             | 1,1<br>1.1 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050 | 0,16<br>0.0065 | 0,20<br>0.0080 | 355 (270 — 440)<br>1175 (890 — 1400)  |
| TS1 | A/D                                                                               | 1,1<br>1.1 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,16<br>0.0065 | 0,20<br>0.0080 | 0,25<br>0.010  | 250 (150 — 340)<br>820 (500 — 1100)   |
| TP1 | A/D                                                                               | 1,1<br>1.1 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,16<br>0.0065 | 0,20<br>0.0080 | 0,25<br>0.010  | 250 (150 — 340)<br>820 (500 — 1100)   |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

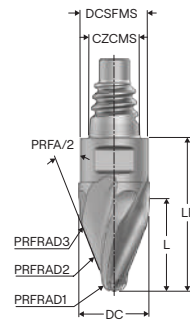
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

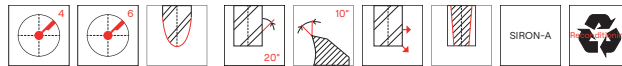
# XHT740

High speed – ISO– M and ISO– S – Taper Shape – 4-6 Flutes



T

- Tolerances:
- PRFRAD1=  $\pm 0,03$  mm
- Form tolerance PRFRAD2= 0,02 mm
- Regrind possible if DC is  $\geq \varnothing 12$  mm and PRFRAD1 is  $\geq 1,5$  mm



| Designation              | Item number | Length index | Tool shape | CZCMS | DC   | DCSFMS | APMXS | LF   | L    | PRFRAD1 | PRFRAD2 | PRFRAD3 | PRFA/2° | PCEDC | SW   | Grade |
|--------------------------|-------------|--------------|------------|-------|------|--------|-------|------|------|---------|---------|---------|---------|-------|------|-------|
|                          |             |              |            |       | mm   | mm     | mm    | mm   | mm   | mm      | mm      | mm      |         |       |      | SIRA  |
| XHT740E10100T2R1.5R250Z4 | 10138388    | 2            | T          | E10   | 10,0 | 9,7    | 1,62  | 18,7 | 5,4  | 1,5     | 250,0   | 2,0     | 65,0    | 4     | 8,0  | ■     |
| XHT740E10100T3R2R250Z4   | 10138391    | 3            | T          | E10   | 10,0 | 9,7    | 9,04  | 21,8 | 12,7 | 2,0     | 250,0   | 5,0     | 20,0    | 4     | 8,0  | ■     |
| XHT740E10100T3R2R250Z6   | 10138395    | 3            | T          | E10   | 10,0 | 9,7    | 9,04  | 21,8 | 12,7 | 2,0     | 250,0   | 5,0     | 20,0    | 6     | 8,0  | ■     |
| XHT740E12120T2R3R250Z4   | 10138389    | 2            | T          | E12   | 12,0 | 11,7   | 5,33  | 22,1 | 10,5 | 3,0     | 250,0   | 6,0     | 32,5    | 4     | 10,0 | ■     |
| XHT740E12120T3R3R250Z4   | 10138392    | 3            | T          | E12   | 12,0 | 11,7   | 9,71  | 25,9 | 13,7 | 3,0     | 250,0   | 6,0     | 20,0    | 4     | 10,0 | ■     |
| XHT740E12120T3R3R250Z6   | 10138396    | 3            | T          | E12   | 12,0 | 11,7   | 9,71  | 25,9 | 13,7 | 3,0     | 250,0   | 6,0     | 20,0    | 6     | 10,0 | ■     |
| XHT740E16160T2R4R500Z4   | 10138390    | 2            | T          | E16   | 16,0 | 15,5   | 8,95  | 29,2 | 14,6 | 4,0     | 500,0   | 8,0     | 27,5    | 4     | 12,0 | ■     |
| XHT740E16160T3R4R1000Z4  | 10138394    | 3            | T          | E16   | 16,0 | 15,5   | 21,02 | 34,1 | 24,0 | 4,0     | 1000,0  | 5,0     | 20,0    | 4     | 12,0 | ■     |
| XHT740E16160T3R4R500Z4   | 10138393    | 3            | T          | E16   | 16,0 | 15,5   | 12,94 | 34,1 | 17,6 | 4,0     | 500,0   | 8,0     | 20,0    | 4     | 12,0 | ■     |
| XHT740E16160T3R4R500Z6   | 10138397    | 3            | T          | E16   | 16,0 | 15,5   | 12,94 | 34,1 | 17,6 | 4,0     | 500,0   | 8,0     | 20,0    | 6     | 12,0 | ■     |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrrp

Graphite

X-Heads

Minimaster

#### Cutting data – XHT740 – Copy milling PCEDC 4

| SMG |  | $a_p$ /DC      | $f_z$          |                |                | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|------------------------------------|
|     |                                                                                   |                | 10             | 12             | 16             |                                    |
| P8  | E/M/A/D                                                                           | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 170 (150 - 195)<br>560 (490 - 640) |
| P12 | E/M/A/D                                                                           | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 120 (95 - 135)<br>400 (310 - 445)  |
| M1  | E/M/A                                                                             | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 150 (125 - 155)<br>490 (410 - 510) |
| M2  | E/M/A                                                                             | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 145 (120 - 150)<br>475 (400 - 490) |
| M3  | E/M/A                                                                             | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 130 (90 - 140)<br>425 (295 - 460)  |
| S2  | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 60 (50 - 70)<br>195 (165 - 230)    |
| S11 | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 100 (85 - 105)<br>320 (280 - 345)  |
| S12 | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 95 (80 - 100)<br>310 (260 - 320)   |
| S13 | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 90 (75 - 95)<br>295 (245 - 310)    |

#### Cutting data – XHT740 – Copy milling PCEDC 6

| SMG |  | $a_p$ /DC      | $f_z$          |                |                | $v_c$                              |
|-----|-----------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|------------------------------------|
|     |                                                                                   |                | 10             | 12             | 16             |                                    |
| P8  | E/M/A/D                                                                           | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 170 (150 - 195)<br>560 (490 - 640) |
| P12 | E/M/A/D                                                                           | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 120 (95 - 135)<br>400 (310 - 445)  |
| M1  | E/M/A                                                                             | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 150 (125 - 155)<br>490 (410 - 510) |
| M2  | E/M/A                                                                             | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 145 (120 - 150)<br>475 (400 - 490) |
| M3  | E/M/A                                                                             | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 130 (90 - 140)<br>425 (295 - 460)  |
| S2  | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 60 (50 - 70)<br>195 (165 - 230)    |
| S11 | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 100 (85 - 105)<br>320 (280 - 345)  |
| S12 | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 95 (80 - 100)<br>310 (260 - 320)   |
| S13 | E                                                                                 | 0,010<br>0.010 | 0,05<br>0.0022 | 0,06<br>0.0024 | 0,08<br>0.0032 | 90 (75 - 95)<br>295 (245 - 310)    |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

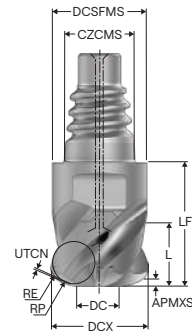
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

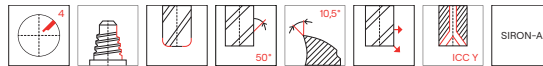
#### XHF580

High feed – Universal – 4 Flutes – Corner radius



D

- Tolerances:
- DCX= h9
- RE= ±0,03 mm



| Designation        | Item number | Length index | Tool shape | CSP | CZCMS | DCX  | DC  | DCSFMS | APMXS | L    | LF   | RE  | RP    | UTCN  | PCEDC | SW   | Grade |
|--------------------|-------------|--------------|------------|-----|-------|------|-----|--------|-------|------|------|-----|-------|-------|-------|------|-------|
|                    |             |              |            |     |       | mm   | mm  | mm     | mm    | mm   | mm   | mm  | mm    | mm    |       |      | SIRA  |
| XHF580E10100D1HZ4A | 10137971    | 1            | D          | ■   | E10   | 10,0 | 3,4 | 9,7    | 0,7   | 6,0  | 12,4 | 1,5 | 1,99  | 0,27  | 4     | 8,0  | ■     |
| XHF580E12120D1HZ4A | 10137972    | 1            | D          | ■   | E12   | 12,0 | 4,5 | 11,7   | 0,8   | 7,5  | 14,5 | 1,5 | 2,1   | 0,323 | 4     | 10,0 | ■     |
| XHF580E16160D1HZ4A | 10137973    | 1            | D          | ■   | E16   | 16,0 | 6,2 | 15,5   | 1,0   | 10,0 | 18,7 | 2,0 | 2,747 | 0,426 | 4     | 12,0 | ■     |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

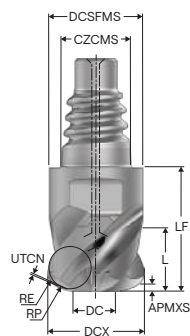
Graphite

X-Heads

Minimaster

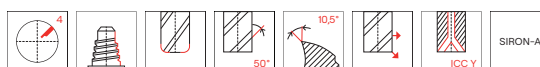
#### XHF580

High feed – Universal – 3-4 Flutes – Corner radius – Inch



D

—Tolerances:  
—DCX= h9  
—RE= ±.0012 Inch



| Designation         | Item number | Length index | Tool shape | CSP | CZCMS | DCX   | DC    | DCSFMS | APMXS | L     | LF    | RE    | RP    | UTCN  | PCEDC | SW   | Grade |
|---------------------|-------------|--------------|------------|-----|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|------|-------|
|                     |             |              |            |     |       | Inch  | Inch  | Inch   | Inch  | Inch  | Inch  | Inch  | Inch  | Inch  |       |      | SIRA  |
| XHF580E10.375D1HZ4A | 10137974    | 1            | D          | ■   | E10   | 0.375 | 0.134 | 0.364  | 0.024 | 0.236 | 0.488 | 0.060 | 0.076 | 0.008 | 4     | 8,0  | ■     |
| XHF580E12.500D1HZ4A | 10137975    | 1            | D          | ■   | E12   | 0.500 | 0.197 | 0.484  | 0.033 | 0.315 | 0.571 | 0.060 | 0.086 | 0.014 | 4     | 10,0 | ■     |
| XHF580E16.625D1HZ4A | 10137976    | 1            | D          | ■   | E16   | 0.625 | 0.236 | 0.610  | 0.039 | 0.394 | 0.736 | 0.080 | 0.110 | 0.016 | 4     | 12,0 | ■     |

■ Stocked standard.



#### Cutting data – XHF580 Side milling

| SMG |  | $a_e/DCX$    | $a_p/DCX$      | $f_z$          |               |               | $v_c$                                 |                                 |
|-----|-----------------------------------------------------------------------------------|--------------|----------------|----------------|---------------|---------------|---------------------------------------|---------------------------------|
|     |                                                                                   |              |                | 10             | 12            | 16            |                                       |                                 |
| P1  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 350 (330 — 400)<br>1150 (1100 — 1300) | Universal                       |
| P2  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 340 (320 — 390)<br>1125 (1100 — 1200) |                                 |
| P3  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 295 (280 — 340)<br>970 (920 — 1100)   | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 260 (250 — 300)<br>850 (830 — 980)    |                                 |
| P5  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 260 (250 — 300)<br>850 (830 — 980)    |                                 |
| P6  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 190 (180 — 230)<br>620 (600 — 750)    |                                 |
| P7  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 180 (170 — 220)<br>590 (560 — 720)    |                                 |
| P8  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 170 (160 — 200)<br>560 (530 — 650)    | Stainless steel and S-materials |
| P11 | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 145 (150 — 170)<br>475 (500 — 550)    |                                 |
| P12 | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 85 (83 — 100)<br>280 (280 — 320)      |                                 |
| M1  | E/M/A                                                                             | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 170 (170 — 200)<br>560 (560 — 650)    |                                 |
| M2  | E/M/A                                                                             | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 140 (140 — 160)<br>460 (460 — 520)    | Non ferrous                     |
| M3  | E/M/A                                                                             | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 105 (97 — 130)<br>345 (320 — 420)     |                                 |
| M4  | E/M/A                                                                             | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 75 (73 — 99)<br>245 (240 — 320)       |                                 |
| M5  | E/M/A                                                                             | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 65 (61 — 83)<br>215 (210 — 270)       |                                 |
| K1  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 345 (330 — 400)<br>1125 (1100 — 1300) | Hard                            |
| K2  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 300 (280 — 340)<br>980 (920 — 1100)   |                                 |
| K3  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 250 (240 — 290)<br>820 (790 — 950)    | Plastic and cfrp                |
| K4  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 240 (230 — 280)<br>790 (760 — 910)    |                                 |
| K5  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 145 (140 — 160)<br>475 (460 — 520)    |                                 |
| K6  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 210 (200 — 240)<br>690 (660 — 780)    |                                 |
| K7  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 185 (180 — 210)<br>610 (600 — 680)    |                                 |
| S1  | E                                                                                 | 0,30<br>0.30 | 0,034<br>0.034 | 0,24<br>0.0095 | 0,28<br>0.011 | 0,38<br>0.015 | 45 (36 — 71)<br>150 (120 — 230)       | Graphite                        |
| S2  | E                                                                                 | 0,30<br>0.30 | 0,034<br>0.034 | 0,24<br>0.0095 | 0,28<br>0.011 | 0,38<br>0.015 | 36 (29 — 57)<br>120 (96 — 180)        |                                 |
| S3  | E                                                                                 | 0,30<br>0.30 | 0,034<br>0.034 | 0,24<br>0.0095 | 0,28<br>0.011 | 0,38<br>0.015 | 31 (25 — 49)<br>100 (83 — 160)        |                                 |
| S11 | E                                                                                 | 0,30<br>0.30 | 0,060<br>0.060 | 0,36<br>0.014  | 0,42<br>0.017 | 0,55<br>0.022 | 160 (160 — 190)<br>520 (530 — 620)    |                                 |
| S12 | E                                                                                 | 0,30<br>0.30 | 0,060<br>0.060 | 0,36<br>0.014  | 0,42<br>0.017 | 0,55<br>0.022 | 125 (120 — 150)<br>410 (400 — 490)    | X-Heads                         |
| S13 | E                                                                                 | 0,30<br>0.30 | 0,060<br>0.060 | 0,36<br>0.014  | 0,42<br>0.017 | 0,55<br>0.022 | 95 (91 — 110)<br>310 (300 — 360)      |                                 |
| H5  | M/A                                                                               | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 105 (98 — 130)<br>345 (330 — 420)     |                                 |
| H8  | M/A                                                                               | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 105 (98 — 130)<br>345 (330 — 420)     | Minimaster                      |
| H21 | M/A                                                                               | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 105 (98 — 130)<br>345 (330 — 420)     |                                 |
| H31 | M/A                                                                               | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 80 (74 — 100)<br>260 (250 — 320)      |                                 |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – XHF580 Slot milling

|                                 | SMG |  | a <sub>p</sub> /DCX | f <sub>z</sub> |                |               | v <sub>c</sub>                       |
|---------------------------------|-----|-----------------------------------------------------------------------------------|---------------------|----------------|----------------|---------------|--------------------------------------|
|                                 |     |                                                                                   |                     | 10             | 12             | 16            |                                      |
| Universal                       | P1  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 320 (300 — 360)<br>1050 (990 — 1100) |
|                                 | P2  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 310 (290 — 350)<br>1025 (960 — 1100) |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 265 (250 — 300)<br>870 (830 — 980)   |
|                                 | P4  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 235 (220 — 270)<br>770 (730 — 880)   |
|                                 | P5  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 235 (220 — 270)<br>770 (730 — 880)   |
|                                 | P6  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 175 (160 — 210)<br>570 (530 — 680)   |
|                                 | P7  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 165 (150 — 200)<br>540 (500 — 650)   |
| Stainless steel and S-materials | P8  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 155 (150 — 180)<br>510 (500 — 590)   |
|                                 | P11 | E/M/A/D                                                                           | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 130 (130 — 160)<br>425 (430 — 520)   |
|                                 | P12 | E/M/A/D                                                                           | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 80 (75 — 94)<br>260 (250 — 300)      |
|                                 | M1  | E/M/A                                                                             | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 155 (150 — 180)<br>510 (500 — 590)   |
| Non ferrous                     | M2  | E/M/A                                                                             | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 125 (120 — 150)<br>410 (400 — 490)   |
|                                 | M3  | E/M/A                                                                             | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 95 (88 — 110)<br>310 (290 — 360)     |
|                                 | M4  | E/M/A                                                                             | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 70 (66 — 89)<br>230 (220 — 290)      |
|                                 | M5  | E/M/A                                                                             | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 60 (55 — 74)<br>195 (190 — 240)      |
|                                 | K1  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 310 (300 — 360)<br>1025 (990 — 1100) |
| Hard                            | K2  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 270 (260 — 310)<br>890 (860 — 1000)  |
|                                 | K3  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 230 (220 — 260)<br>750 (730 — 850)   |
| Plastic and cfrp                | K4  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 220 (210 — 250)<br>720 (690 — 820)   |
|                                 | K5  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 130 (130 — 150)<br>425 (430 — 490)   |
|                                 | K6  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 190 (180 — 220)<br>620 (600 — 720)   |
|                                 | K7  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 165 (160 — 190)<br>540 (530 — 620)   |
|                                 | S1  | E                                                                                 | 0,034<br>0.034      | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 39 (32 — 62)<br>130 (110 — 200)      |
| Graphite                        | S2  | E                                                                                 | 0,034<br>0.034      | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 31 (26 — 50)<br>100 (86 — 160)       |
|                                 | S3  | E                                                                                 | 0,034<br>0.034      | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 27 (22 — 43)<br>90 (73 — 140)        |
|                                 | S11 | E                                                                                 | 0,060<br>0.060      | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 150 (150 — 180)<br>490 (500 — 590)   |
| X-Heads                         | S12 | E                                                                                 | 0,060<br>0.060      | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 115 (110 — 140)<br>375 (370 — 450)   |
|                                 | S13 | E                                                                                 | 0,060<br>0.060      | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 90 (85 — 100)<br>295 (280 — 320)     |
|                                 | H5  | M/A                                                                               | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 95 (88 — 120)<br>310 (290 — 390)     |
|                                 | H8  | M/A                                                                               | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 95 (88 — 120)<br>310 (290 — 390)     |
|                                 | H21 | M/A                                                                               | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 95 (88 — 120)<br>310 (290 — 390)     |
| Minimaster                      | H31 | M/A                                                                               | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 70 (67 — 91)<br>230 (220 — 290)      |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – XHF580 Side milling inch

| SMG |  | $a_e/DCX$    | $a_p/DCX$      | $f_z$          |               |               | $v_c$                                 | Universal           |
|-----|-----------------------------------------------------------------------------------|--------------|----------------|----------------|---------------|---------------|---------------------------------------|---------------------|
|     |                                                                                   |              |                | 3/8            | 1/2           | 5/8           |                                       |                     |
| P1  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 485 (440 — 530)<br>1600 (1500 — 1700) | Steel and cast iron |
| P2  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 475 (430 — 520)<br>1550 (1500 — 1700) |                     |
| P3  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 405 (370 — 450)<br>1325 (1300 — 1400) |                     |
| P4  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 360 (320 — 390)<br>1175 (1100 — 1200) |                     |
| P5  | E/M/A/D                                                                           | 0,34<br>0.34 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 260 (240 — 290)<br>850 (790 — 950)    |                     |
| P6  | E/M/A/D                                                                           | 0,34<br>0.34 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 295 (270 — 320)<br>970 (890 — 1000)   |                     |
| P7  | E/M/A/D                                                                           | 0,34<br>0.34 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 280 (250 — 300)<br>920 (830 — 980)    |                     |
| P8  | E/M/A/D                                                                           | 0,34<br>0.34 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 260 (240 — 290)<br>850 (790 — 950)    |                     |
| P11 | E/M/A/D                                                                           | 0,30<br>0.30 | 0,055<br>0.055 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 160 (140 — 170)<br>520 (460 — 550)    |                     |
| P12 | E/M/A/D                                                                           | 0,30<br>0.30 | 0,055<br>0.055 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 95 (83 — 100)<br>310 (280 — 320)      |                     |
| M1  | E/M/A                                                                             | 0,30<br>0.30 | 0,055<br>0.055 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 185 (170 — 200)<br>610 (560 — 650)    | Non ferrous         |
| M2  | E/M/A                                                                             | 0,30<br>0.30 | 0,055<br>0.055 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 150 (140 — 160)<br>490 (460 — 520)    |                     |
| M3  | E/M/A                                                                             | 0,30<br>0.30 | 0,055<br>0.055 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 115 (97 — 130)<br>375 (320 — 420)     |                     |
| M4  | E/M/A                                                                             | 0,30<br>0.30 | 0,055<br>0.055 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 85 (73 — 99)<br>280 (240 — 320)       |                     |
| M5  | E/M/A                                                                             | 0,30<br>0.30 | 0,055<br>0.055 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 70 (61 — 82)<br>230 (210 — 260)       |                     |
| K1  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 475 (430 — 520)<br>1550 (1500 — 1700) | Hard                |
| K2  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 415 (370 — 450)<br>1350 (1300 — 1400) |                     |
| K3  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 350 (320 — 380)<br>1150 (1100 — 1200) | Plastic and cfrp    |
| K4  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 335 (300 — 370)<br>1100 (990 — 1200)  |                     |
| K5  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 200 (180 — 220)<br>660 (600 — 720)    |                     |
| K6  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 295 (270 — 320)<br>970 (890 — 1000)   |                     |
| K7  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,060<br>0.060 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 255 (230 — 280)<br>840 (760 — 910)    |                     |
| S1  | E                                                                                 | 0,30<br>0.30 | 0,034<br>0.034 | 0,24<br>0.0095 | 0,28<br>0.011 | 0,38<br>0.015 | 55 (36 — 71)<br>180 (120 — 230)       | Graphite            |
| S2  | E                                                                                 | 0,30<br>0.30 | 0,034<br>0.034 | 0,24<br>0.0095 | 0,28<br>0.011 | 0,38<br>0.015 | 43 (29 — 57)<br>140 (96 — 180)        |                     |
| S3  | E                                                                                 | 0,30<br>0.30 | 0,034<br>0.034 | 0,24<br>0.0095 | 0,28<br>0.011 | 0,38<br>0.015 | 37 (25 — 49)<br>120 (83 — 160)        |                     |
| S11 | E                                                                                 | 0,30<br>0.30 | 0,034<br>0.034 | 0,36<br>0.014  | 0,42<br>0.017 | 0,55<br>0.022 | 170 (150 — 190)<br>560 (500 — 620)    | X-Heads             |
| S12 | E                                                                                 | 0,30<br>0.30 | 0,034<br>0.034 | 0,36<br>0.014  | 0,42<br>0.017 | 0,55<br>0.022 | 130 (120 — 140)<br>425 (400 — 450)    |                     |
| S13 | E                                                                                 | 0,30<br>0.30 | 0,034<br>0.034 | 0,36<br>0.014  | 0,42<br>0.017 | 0,55<br>0.022 | 100 (89 — 110)<br>330 (300 — 360)     |                     |
| H5  | M/A                                                                               | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 115 (98 — 130)<br>375 (330 — 420)     |                     |
| H8  | M/A                                                                               | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 115 (98 — 130)<br>375 (330 — 420)     |                     |
| H21 | M/A                                                                               | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 115 (98 — 130)<br>375 (330 — 420)     | Minimaster          |
| H31 | M/A                                                                               | 0,30<br>0.30 | 0,060<br>0.060 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 90 (74 — 100)<br>295 (250 — 320)      |                     |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

 $v_c$  = m/min (sf/min)

 $f_z$  = mm (in/tooth)

 $a_p$  = mm/DC (in/DC) = factor

 $a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – XHF580 Slot milling inch

|                                 | SMG |  | a <sub>p</sub> /DCX | f <sub>z</sub> |                |               | v <sub>c</sub>                        |
|---------------------------------|-----|-----------------------------------------------------------------------------------|---------------------|----------------|----------------|---------------|---------------------------------------|
|                                 |     |                                                                                   |                     | 3/8            | 1/2            | 5/8           |                                       |
| Universal                       | P1  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 440 (400 — 480)<br>1450 (1400 — 1500) |
|                                 | P2  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 430 (390 — 470)<br>1400 (1300 — 1500) |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 370 (330 — 400)<br>1225 (1100 — 1300) |
|                                 | P4  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 325 (290 — 360)<br>1075 (960 — 1100)  |
|                                 | P5  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 245 (220 — 270)<br>800 (730 — 880)    |
|                                 | P6  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 275 (250 — 300)<br>900 (830 — 980)    |
|                                 | P7  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 260 (240 — 280)<br>850 (790 — 910)    |
| Stainless steel and S-materials | P8  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 245 (220 — 270)<br>800 (730 — 880)    |
|                                 | P11 | E/M/A/D                                                                           | 0,055<br>0.055      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 145 (130 — 160)<br>475 (430 — 520)    |
|                                 | P12 | E/M/A/D                                                                           | 0,055<br>0.055      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 85 (75 — 94)<br>280 (250 — 300)       |
|                                 | M1  | E/M/A                                                                             | 0,055<br>0.055      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 170 (150 — 180)<br>560 (500 — 590)    |
|                                 | M2  | E/M/A                                                                             | 0,055<br>0.055      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 135 (120 — 150)<br>445 (400 — 490)    |
| Non ferrous                     | M3  | E/M/A                                                                             | 0,055<br>0.055      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 105 (88 — 110)<br>345 (290 — 360)     |
|                                 | M4  | E/M/A                                                                             | 0,055<br>0.055      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 80 (66 — 89)<br>260 (220 — 290)       |
|                                 | M5  | E/M/A                                                                             | 0,055<br>0.055      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 65 (55 — 74)<br>215 (190 — 240)       |
|                                 | K1  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 430 (390 — 480)<br>1400 (1300 — 1500) |
|                                 | K2  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 375 (340 — 410)<br>1225 (1200 — 1300) |
| Hard                            | K3  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 315 (290 — 350)<br>1025 (960 — 1100)  |
|                                 | K4  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 305 (270 — 330)<br>1000 (890 — 1000)  |
|                                 | K5  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 180 (170 — 200)<br>590 (560 — 650)    |
|                                 | K6  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 265 (240 — 290)<br>870 (790 — 950)    |
|                                 | K7  | E/M/A/D                                                                           | 0,060<br>0.060      | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 230 (210 — 250)<br>750 (690 — 820)    |
| Plastic and cfrp                | S1  | E                                                                                 | 0,034<br>0.034      | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 47 (32 — 62)<br>155 (110 — 200)       |
|                                 | S2  | E                                                                                 | 0,034<br>0.034      | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 38 (26 — 50)<br>125 (86 — 160)        |
|                                 | S3  | E                                                                                 | 0,034<br>0.034      | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 32 (22 — 43)<br>105 (73 — 140)        |
|                                 | S11 | E                                                                                 | 0,034<br>0.034      | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 160 (150 — 180)<br>520 (500 — 590)    |
|                                 | S12 | E                                                                                 | 0,034<br>0.034      | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 125 (110 — 140)<br>410 (370 — 450)    |
| Graphite                        | S13 | E                                                                                 | 0,034<br>0.034      | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 95 (84 — 100)<br>310 (280 — 320)      |
|                                 | H5  | M/A                                                                               | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 105 (88 — 120)<br>345 (290 — 390)     |
|                                 | H8  | M/A                                                                               | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 105 (88 — 120)<br>345 (290 — 390)     |
|                                 | H21 | M/A                                                                               | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 105 (88 — 120)<br>345 (290 — 390)     |
|                                 | H31 | M/A                                                                               | 0,060<br>0.060      | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 80 (67 — 91)<br>260 (220 — 290)       |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

v<sub>c</sub> = m/min (sf/min)

f<sub>z</sub> = mm (in/tooth)

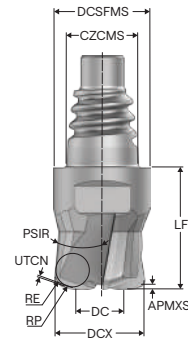
a<sub>p</sub> = mm/DC (in/DC) = factor

a<sub>e</sub> = mm/DC (in/DC) = factor

All cutting data are target values

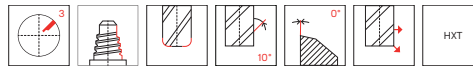
#### XHF780

High feed – ISO– M and ISO– S – 3 Flutes – Corner radius



D

- Tolerances:
- DCX= -0,02/-0,04 mm
- RE= ±0,05 mm



| Designation       | Item number | Length index | Tool shape | CZCMS | DCX  | DC  | DCSFMS | APMXS | L   | LF   | RE  | RP    | UTCN  | PCEDC | SW   | Grade |
|-------------------|-------------|--------------|------------|-------|------|-----|--------|-------|-----|------|-----|-------|-------|-------|------|-------|
|                   |             |              |            |       | mm   | mm  | mm     | mm    | mm  | mm   | mm  | mm    | mm    |       |      | HXT   |
| XHF780E10100D1HZ3 | 10137957    | 1            | D          | E10   | 10,0 | 5,0 | 9,7    | 0,45  | 5,5 | 12,3 | 0,8 | 1,175 | 0,232 | 3     | 8,0  | ■     |
| XHF780E12120D1HZ3 | 10137958    | 1            | D          | E12   | 12,0 | 6,0 | 11,7   | 0,5   | 6,6 | 14,4 | 1,0 | 1,416 | 0,262 | 3     | 10,0 | ■     |
| XHF780E16160D1HZ3 | 10137959    | 1            | D          | E16   | 16,0 | 8,0 | 15,5   | 0,6   | 8,8 | 18,6 | 1,5 | 1,989 | 0,32  | 3     | 12,0 | ■     |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

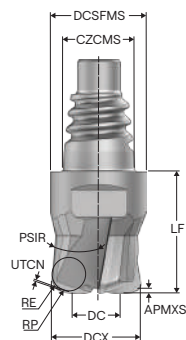
Graphite

X-Heads

Minimaster

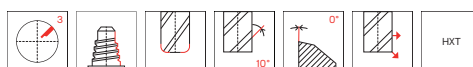
#### XHF780

High feed – ISO– M and ISO– S – 3 Flutes – Corner radius – Inch



D

—Tolerances:  
—DCX= -0.0008/-0.0016 Inch  
—RE= ±0.002 Inch



| Designation        | Item number | Length index | Tool shape | CZCMS | DCX   | DC    | DCSFMS | APMXS | L     | LF    | RE    | RP    | UTCN  | PCEDC | SW   | Grade |
|--------------------|-------------|--------------|------------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|------|-------|
|                    |             |              |            |       | Inch  | Inch  | Inch   | Inch  | Inch  | Inch  | Inch  | Inch  | Inch  |       |      | HXT   |
| XHF780E10.375D1HZ3 | 10137960    | 1            | D          | E10   | 0.375 | 0.188 | 0.364  | 0.018 | 0.206 | 0.484 | 0.028 | 0.043 | 0.009 | 3     | 8,0  | ■     |
| XHF780E12.500D1HZ3 | 10137961    | 1            | D          | E12   | 0.500 | 0.250 | 0.484  | 0.020 | 0.276 | 0.567 | 0.045 | 0.061 | 0.010 | 3     | 10,0 | ■     |
| XHF780E16.625D1HZ3 | 10137962    | 1            | D          | E16   | 0.625 | 0.313 | 0.610  | 0.024 | 0.343 | 0.732 | 0.061 | 0.080 | 0.012 | 3     | 12,0 | ■     |

■ Stocked standard.

## Cutting data – XHF780 Side milling

| SMG |  | $a_e/DCX$    | $a_p/DCX$      | $f_z$          |               |               | $v_c$                                 |                                           |
|-----|-----------------------------------------------------------------------------------|--------------|----------------|----------------|---------------|---------------|---------------------------------------|-------------------------------------------|
|     |                                                                                   |              |                | 10             | 12            | 16            |                                       |                                           |
| P1  | E/M/A/D                                                                           | 0,30<br>0,30 | 0,040<br>0,040 | 0,50<br>0,020  | 0,60<br>0,024 | 0,80<br>0,032 | 355 (330 — 410)<br>1175 (1100 — 1300) | Universal                                 |
| P2  | E/M/A/D                                                                           | 0,30<br>0,30 | 0,040<br>0,040 | 0,50<br>0,020  | 0,60<br>0,024 | 0,80<br>0,032 | 345 (320 — 390)<br>1125 (1100 — 1200) |                                           |
| P3  | E/M/A/D                                                                           | 0,30<br>0,30 | 0,040<br>0,040 | 0,50<br>0,020  | 0,60<br>0,024 | 0,80<br>0,032 | 295 (280 — 340)<br>970 (920 — 1100)   | Steel and cast iron                       |
| P4  | E/M/A/D                                                                           | 0,30<br>0,30 | 0,040<br>0,040 | 0,50<br>0,020  | 0,60<br>0,024 | 0,80<br>0,032 | 260 (250 — 300)<br>850 (830 — 980)    |                                           |
| P5  | E/M/A/D                                                                           | 0,30<br>0,30 | 0,040<br>0,040 | 0,50<br>0,020  | 0,60<br>0,024 | 0,80<br>0,032 | 260 (250 — 300)<br>850 (830 — 980)    | Steel and stainless steel and S-materials |
| P6  | E/M/A/D                                                                           | 0,30<br>0,30 | 0,040<br>0,040 | 0,50<br>0,020  | 0,60<br>0,024 | 0,80<br>0,032 | 195 (180 — 230)<br>640 (600 — 750)    |                                           |
| P7  | E/M/A/D                                                                           | 0,30<br>0,30 | 0,040<br>0,040 | 0,50<br>0,020  | 0,60<br>0,024 | 0,80<br>0,032 | 185 (170 — 220)<br>610 (560 — 720)    | Stainless steel and S-materials           |
| P8  | E/M/A/D                                                                           | 0,30<br>0,30 | 0,040<br>0,040 | 0,50<br>0,020  | 0,60<br>0,024 | 0,80<br>0,032 | 175 (160 — 210)<br>570 (530 — 680)    |                                           |
| P11 | E/M/A/D                                                                           | 0,30<br>0,30 | 0,040<br>0,040 | 0,50<br>0,020  | 0,60<br>0,024 | 0,80<br>0,032 | 180 (170 — 210)<br>590 (560 — 680)    | Non ferrous                               |
| P12 | E/M/A/D                                                                           | 0,30<br>0,30 | 0,036<br>0,036 | 0,40<br>0,016  | 0,48<br>0,019 | 0,65<br>0,026 | 85 (83 — 100)<br>280 (280 — 320)      |                                           |
| M1  | E/M/A                                                                             | 0,30<br>0,30 | 0,036<br>0,036 | 0,40<br>0,016  | 0,48<br>0,019 | 0,65<br>0,026 | 175 (170 — 210)<br>570 (560 — 680)    | Non ferrous                               |
| M2  | E/M/A                                                                             | 0,30<br>0,30 | 0,036<br>0,036 | 0,40<br>0,016  | 0,48<br>0,019 | 0,65<br>0,026 | 140 (140 — 160)<br>460 (460 — 520)    |                                           |
| M3  | E/M/A                                                                             | 0,30<br>0,30 | 0,036<br>0,036 | 0,40<br>0,016  | 0,48<br>0,019 | 0,65<br>0,026 | 105 (97 — 130)<br>345 (320 — 420)     | Hard                                      |
| M4  | E/M/A                                                                             | 0,30<br>0,30 | 0,036<br>0,036 | 0,40<br>0,016  | 0,48<br>0,019 | 0,65<br>0,026 | 75 (73 — 100)<br>245 (240 — 320)      |                                           |
| M5  | E/M/A                                                                             | 0,30<br>0,30 | 0,036<br>0,036 | 0,40<br>0,016  | 0,48<br>0,019 | 0,65<br>0,026 | 65 (61 — 83)<br>215 (210 — 270)       | Plastic and cfzp                          |
| S1  | E                                                                                 | 0,30<br>0,30 | 0,022<br>0,022 | 0,24<br>0,0095 | 0,28<br>0,011 | 0,38<br>0,015 | 45 (36 — 71)<br>150 (120 — 230)       |                                           |
| S2  | E                                                                                 | 0,30<br>0,30 | 0,022<br>0,022 | 0,24<br>0,0095 | 0,28<br>0,011 | 0,38<br>0,015 | 36 (29 — 57)<br>120 (96 — 180)        | Graphite                                  |
| S3  | E                                                                                 | 0,30<br>0,30 | 0,022<br>0,022 | 0,24<br>0,0095 | 0,28<br>0,011 | 0,38<br>0,015 | 31 (25 — 49)<br>100 (83 — 160)        |                                           |
| S11 | E                                                                                 | 0,30<br>0,30 | 0,022<br>0,022 | 0,36<br>0,014  | 0,42<br>0,017 | 0,55<br>0,022 | 160 (160 — 190)<br>520 (530 — 620)    | X-Heads                                   |
| S12 | E                                                                                 | 0,30<br>0,30 | 0,022<br>0,022 | 0,36<br>0,014  | 0,42<br>0,017 | 0,55<br>0,022 | 120 (120 — 150)<br>395 (400 — 490)    |                                           |
| S13 | E                                                                                 | 0,30<br>0,30 | 0,022<br>0,022 | 0,36<br>0,014  | 0,42<br>0,017 | 0,55<br>0,022 | 95 (90 — 110)<br>310 (300 — 360)      | Minimaster                                |
| H5  | M/A                                                                               | 0,30<br>0,30 | 0,040<br>0,040 | 0,40<br>0,016  | 0,48<br>0,019 | 0,65<br>0,026 | 105 (99 — 130)<br>345 (330 — 420)     |                                           |
| H8  | M/A                                                                               | 0,30<br>0,30 | 0,040<br>0,040 | 0,40<br>0,016  | 0,48<br>0,019 | 0,65<br>0,026 | 105 (99 — 130)<br>345 (330 — 420)     |                                           |
| H11 | M/A                                                                               | 0,30<br>0,30 | 0,040<br>0,040 | 0,40<br>0,016  | 0,48<br>0,019 | 0,65<br>0,026 | 135 (130 — 170)<br>445 (430 — 550)    |                                           |
| H21 | M/A                                                                               | 0,30<br>0,30 | 0,040<br>0,040 | 0,40<br>0,016  | 0,48<br>0,019 | 0,65<br>0,026 | 105 (99 — 130)<br>345 (330 — 420)     |                                           |
| H31 | M/A                                                                               | 0,30<br>0,30 | 0,040<br>0,040 | 0,40<br>0,016  | 0,48<br>0,019 | 0,65<br>0,026 | 80 (75 — 100)<br>260 (250 — 320)      |                                           |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – XHF780 Slot milling

|                                 | SMG |  | $a_p$ /DCX     | $f_z$          |                |               | $v_c$                                |
|---------------------------------|-----|-----------------------------------------------------------------------------------|----------------|----------------|----------------|---------------|--------------------------------------|
|                                 |     |                                                                                   |                | 10             | 12             | 16            |                                      |
| Universal                       | P1  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 310 (290 — 350)<br>1025 (960 — 1100) |
|                                 | P2  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 300 (290 — 350)<br>980 (960 — 1100)  |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 260 (250 — 300)<br>850 (830 — 980)   |
|                                 | P4  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 230 (220 — 260)<br>750 (730 — 850)   |
|                                 | P5  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 230 (220 — 260)<br>750 (730 — 850)   |
|                                 | P6  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 170 (160 — 200)<br>560 (530 — 650)   |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 160 (150 — 190)<br>520 (500 — 620)   |
|                                 | P8  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 150 (140 — 180)<br>490 (460 — 590)   |
|                                 | P11 | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 155 (150 — 180)<br>510 (500 — 590)   |
|                                 | P12 | E/M/A/D                                                                           | 0,036<br>0.036 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 75 (73 — 92)<br>245 (240 — 300)      |
| Non ferrous                     | M1  | E/M/A                                                                             | 0,036<br>0.036 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 150 (150 — 180)<br>490 (500 — 590)   |
|                                 | M2  | E/M/A                                                                             | 0,036<br>0.036 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 120 (120 — 140)<br>395 (400 — 450)   |
|                                 | M3  | E/M/A                                                                             | 0,036<br>0.036 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 90 (85 — 110)<br>295 (280 — 360)     |
|                                 | M4  | E/M/A                                                                             | 0,036<br>0.036 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 65 (64 — 87)<br>215 (210 — 280)      |
| Hard                            | M5  | E/M/A                                                                             | 0,036<br>0.036 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 55 (53 — 72)<br>180 (180 — 230)      |
|                                 | S1  | E                                                                                 | 0,022<br>0.022 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 38 (31 — 60)<br>125 (110 — 190)      |
|                                 | S2  | E                                                                                 | 0,022<br>0.022 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 30 (25 — 48)<br>100 (83 — 150)       |
|                                 | S3  | E                                                                                 | 0,022<br>0.022 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 26 (21 — 41)<br>85 (69 — 130)        |
| Plastic and cfrp                | S11 | E                                                                                 | 0,022<br>0.022 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 145 (140 — 170)<br>475 (460 — 550)   |
|                                 | S12 | E                                                                                 | 0,022<br>0.022 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 110 (110 — 130)<br>360 (370 — 420)   |
|                                 | S13 | E                                                                                 | 0,022<br>0.022 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 85 (82 — 100)<br>280 (270 — 320)     |
|                                 | H5  | M/A                                                                               | 0,040<br>0.040 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 90 (86 — 110)<br>295 (290 — 360)     |
| Graphite                        | H8  | M/A                                                                               | 0,040<br>0.040 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 90 (86 — 110)<br>295 (290 — 360)     |
|                                 | H11 | M/A                                                                               | 0,040<br>0.040 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 115 (110 — 140)<br>375 (370 — 450)   |
|                                 | H21 | M/A                                                                               | 0,040<br>0.040 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 90 (86 — 110)<br>295 (290 — 360)     |
|                                 | H31 | M/A                                                                               | 0,040<br>0.040 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 70 (65 — 88)<br>230 (220 — 280)      |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values



## Cutting data – XHF780 Side milling inch

| SMG |  | $a_e/DCX$    | $a_p/DCX$      | $f_z$          |               |               | $v_c$                                 | Universal                       |
|-----|-----------------------------------------------------------------------------------|--------------|----------------|----------------|---------------|---------------|---------------------------------------|---------------------------------|
|     |                                                                                   |              |                | 3/8            | 1/2           | 5/8           |                                       |                                 |
| P1  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,040<br>0.040 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 370 (330 — 410)<br>1225 (1100 — 1300) | Steel and cast iron             |
| P2  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,040<br>0.040 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 360 (320 — 390)<br>1175 (1100 — 1200) |                                 |
| P3  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,040<br>0.040 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 310 (280 — 340)<br>1025 (920 — 1100)  |                                 |
| P4  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,040<br>0.040 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 270 (250 — 300)<br>890 (830 — 980)    |                                 |
| P5  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,040<br>0.040 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 270 (250 — 300)<br>890 (830 — 980)    |                                 |
| P6  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,040<br>0.040 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 305 (280 — 330)<br>1000 (920 — 1000)  | Stainless steel and S-materials |
| P7  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,040<br>0.040 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 290 (260 — 320)<br>950 (860 — 1000)   |                                 |
| P8  | E/M/A/D                                                                           | 0,30<br>0.30 | 0,040<br>0.040 | 0,50<br>0.020  | 0,60<br>0.024 | 0,80<br>0.032 | 270 (250 — 300)<br>890 (830 — 980)    |                                 |
| P11 | E/M/A/D                                                                           | 0,30<br>0.30 | 0,036<br>0.036 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 160 (150 — 170)<br>520 (500 — 550)    |                                 |
| P12 | E/M/A/D                                                                           | 0,30<br>0.30 | 0,036<br>0.036 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 95 (83 — 100)<br>310 (280 — 320)      |                                 |
| M1  | E/M/A                                                                             | 0,30<br>0.30 | 0,036<br>0.036 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 190 (170 — 210)<br>620 (560 — 680)    | Non ferrous                     |
| M2  | E/M/A                                                                             | 0,30<br>0.30 | 0,036<br>0.036 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 150 (140 — 160)<br>490 (460 — 520)    |                                 |
| M3  | E/M/A                                                                             | 0,30<br>0.30 | 0,036<br>0.036 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 115 (97 — 130)<br>375 (320 — 420)     |                                 |
| M4  | E/M/A                                                                             | 0,30<br>0.30 | 0,036<br>0.036 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 85 (73 — 100)<br>280 (240 — 320)      |                                 |
| M5  | E/M/A                                                                             | 0,30<br>0.30 | 0,036<br>0.036 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 70 (61 — 83)<br>230 (210 — 270)       |                                 |
| S1  | E                                                                                 | 0,30<br>0.30 | 0,022<br>0.022 | 0,24<br>0.0095 | 0,28<br>0.011 | 0,38<br>0.015 | 55 (36 — 71)<br>180 (120 — 230)       | Hard                            |
| S2  | E                                                                                 | 0,30<br>0.30 | 0,022<br>0.022 | 0,24<br>0.0095 | 0,28<br>0.011 | 0,38<br>0.015 | 43 (29 — 57)<br>140 (96 — 180)        |                                 |
| S3  | E                                                                                 | 0,30<br>0.30 | 0,022<br>0.022 | 0,24<br>0.0095 | 0,28<br>0.011 | 0,38<br>0.015 | 37 (25 — 49)<br>120 (83 — 160)        |                                 |
| S11 | E                                                                                 | 0,30<br>0.30 | 0,022<br>0.022 | 0,36<br>0.014  | 0,42<br>0.017 | 0,55<br>0.022 | 175 (160 — 190)<br>570 (530 — 620)    |                                 |
| S12 | E                                                                                 | 0,30<br>0.30 | 0,022<br>0.022 | 0,36<br>0.014  | 0,42<br>0.017 | 0,55<br>0.022 | 135 (120 — 150)<br>445 (400 — 490)    |                                 |
| S13 | E                                                                                 | 0,30<br>0.30 | 0,022<br>0.022 | 0,36<br>0.014  | 0,42<br>0.017 | 0,55<br>0.022 | 105 (90 — 110)<br>345 (300 — 360)     | Plastic and cf rp               |
| H5  | M/A                                                                               | 0,30<br>0.30 | 0,040<br>0.040 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 115 (99 — 130)<br>375 (330 — 420)     |                                 |
| H8  | M/A                                                                               | 0,30<br>0.30 | 0,040<br>0.040 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 115 (99 — 130)<br>375 (330 — 420)     |                                 |
| H11 | M/A                                                                               | 0,30<br>0.30 | 0,040<br>0.040 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 150 (130 — 170)<br>490 (430 — 550)    |                                 |
| H21 | M/A                                                                               | 0,30<br>0.30 | 0,040<br>0.040 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 115 (99 — 130)<br>375 (330 — 420)     |                                 |
| H31 | M/A                                                                               | 0,30<br>0.30 | 0,040<br>0.040 | 0,40<br>0.016  | 0,48<br>0.019 | 0,65<br>0.026 | 90 (75 — 100)<br>295 (250 — 320)      |                                 |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

## Cutting data – XHF780 Slot milling inch

|                                 | SMG |  | $a_p$ /DCX     | $f_z$          |                |               | $v_c$                                |
|---------------------------------|-----|-----------------------------------------------------------------------------------|----------------|----------------|----------------|---------------|--------------------------------------|
|                                 |     |                                                                                   |                | 3/8            | 1/2            | 5/8           |                                      |
| Universal                       | P1  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 325 (290 — 350)<br>1075 (960 — 1100) |
|                                 | P2  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 315 (290 — 350)<br>1025 (960 — 1100) |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 270 (250 — 300)<br>890 (830 — 980)   |
|                                 | P4  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 240 (220 — 260)<br>790 (730 — 850)   |
|                                 | P5  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 240 (220 — 260)<br>790 (730 — 850)   |
|                                 | P6  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 270 (240 — 290)<br>890 (790 — 950)   |
|                                 | P7  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 255 (230 — 280)<br>840 (760 — 910)   |
| Stainless steel and S-materials | P8  | E/M/A/D                                                                           | 0,040<br>0.040 | 0,30<br>0.012  | 0,36<br>0.014  | 0,48<br>0.019 | 240 (220 — 260)<br>790 (730 — 850)   |
|                                 | P11 | E/M/A/D                                                                           | 0,036<br>0.036 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 140 (130 — 150)<br>460 (430 — 490)   |
|                                 | P12 | E/M/A/D                                                                           | 0,036<br>0.036 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 80 (73 — 92)<br>260 (240 — 300)      |
|                                 | M1  | E/M/A                                                                             | 0,036<br>0.036 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 165 (150 — 180)<br>540 (500 — 590)   |
|                                 | M2  | E/M/A                                                                             | 0,036<br>0.036 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 130 (120 — 140)<br>425 (400 — 450)   |
| Non ferrous                     | M3  | E/M/A                                                                             | 0,036<br>0.036 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 100 (85 — 110)<br>330 (280 — 360)    |
|                                 | M4  | E/M/A                                                                             | 0,036<br>0.036 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 75 (64 — 87)<br>245 (210 — 280)      |
|                                 | M5  | E/M/A                                                                             | 0,036<br>0.036 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 65 (53 — 72)<br>215 (180 — 230)      |
|                                 | S1  | E                                                                                 | 0,022<br>0.022 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 45 (31 — 60)<br>150 (110 — 190)      |
|                                 | S2  | E                                                                                 | 0,022<br>0.022 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 36 (25 — 48)<br>120 (83 — 150)       |
| Hard                            | S3  | E                                                                                 | 0,022<br>0.022 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 31 (21 — 41)<br>100 (69 — 130)       |
|                                 | S11 | E                                                                                 | 0,022<br>0.022 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 155 (140 — 170)<br>510 (460 — 550)   |
|                                 | S12 | E                                                                                 | 0,022<br>0.022 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 120 (110 — 130)<br>395 (370 — 420)   |
|                                 | S13 | E                                                                                 | 0,022<br>0.022 | 0,18<br>0.0070 | 0,22<br>0.0085 | 0,28<br>0.011 | 95 (82 — 100)<br>310 (270 — 320)     |
|                                 | H5  | M/A                                                                               | 0,040<br>0.040 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 100 (86 — 110)<br>330 (290 — 360)    |
| Plastic and cfrp                | H8  | M/A                                                                               | 0,040<br>0.040 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 100 (86 — 110)<br>330 (290 — 360)    |
|                                 | H11 | M/A                                                                               | 0,040<br>0.040 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 130 (110 — 140)<br>425 (370 — 450)   |
|                                 | H21 | M/A                                                                               | 0,040<br>0.040 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 100 (86 — 110)<br>330 (290 — 360)    |
|                                 | H31 | M/A                                                                               | 0,040<br>0.040 | 0,24<br>0.0095 | 0,28<br>0.011  | 0,38<br>0.015 | 75 (65 — 88)<br>245 (220 — 280)      |
|                                 |     |                                                                                   |                |                |                |               |                                      |

SMG = Seco material group

Coolant = A=air D=dry E=emulsion M=mist spray

$v_c$  = m/min (sf/min)

$f_z$  = mm (in/tooth)

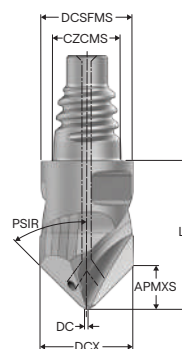
$a_p$  = mm/DC (in/DC) = factor

$a_e$  = mm/DC (in/DC) = factor

All cutting data are target values

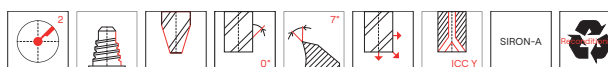
## XS5021

High performance – Universal – Chamfer –2 Flutes



N

- Tolerances:
- DCX= 0,02/-0,04 mm
- PSIR=  $\pm 0,5^\circ$
- Regrind possible if DC is  $\geq \varnothing 12$  mm



| Designation            | Item number | Length index | Tool shape | CZCMS | DC  | DCX  | DCSFMS | APMXS | LF   | PSIR° | PCEDC | SW   | Grade |
|------------------------|-------------|--------------|------------|-------|-----|------|--------|-------|------|-------|-------|------|-------|
|                        |             |              |            |       | mm  | mm   | mm     | mm    | mm   |       |       |      | SIRA  |
| XS5021-E10100N1SZ2T45A | 10343896    | 1            | N          | E10   | 0,5 | 10,0 | 9,7    | 7,1   | 16,0 | 45,0  | 2     | 8,0  | ■     |
| XS5021-E12120N1SZ2T45A | 10343897    | 1            | N          | E12   | 0,6 | 12,0 | 11,7   | 8,6   | 19,0 | 45,0  | 2     | 10,0 | ■     |
| XS5021-E16160N1SZ2T45A | 10343898    | 1            | N          | E16   | 0,8 | 16,0 | 15,5   | 12,0  | 26,4 | 45,0  | 2     | 12,0 | ■     |

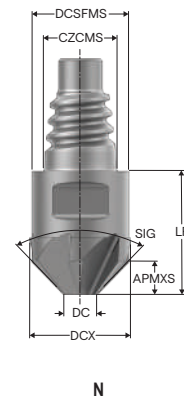
■ Stocked standard.

## Cutting data – XS5021 Chamfering

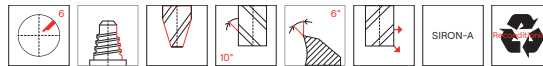
|                                 | SMG |  | a <sub>e</sub> /DCX | a <sub>p</sub> /DCX | f <sub>z</sub>  |                 |                 | v <sub>c</sub>                          |
|---------------------------------|-----|-----------------------------------------------------------------------------------|---------------------|---------------------|-----------------|-----------------|-----------------|-----------------------------------------|
|                                 |     |                                                                                   |                     |                     | 10              | 12              | 16              |                                         |
| Universal                       | P1  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,05<br>0.0020  | 0,075<br>0.0030 | 0,095<br>0.0037 | 275 (135 — 310)<br>900 (440 — 1010)     |
|                                 | P2  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,05<br>0.0020  | 0,075<br>0.0030 | 0,095<br>0.0037 | 270 (130 — 300)<br>890 (425 — 975)      |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,05<br>0.0020  | 0,075<br>0.0030 | 0,095<br>0.0037 | 235 (110 — 260)<br>770 (370 — 850)      |
|                                 | P4  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0033 | 220 (105 — 250)<br>720 (350 — 810)      |
|                                 | P5  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0033 | 200 (95 — 220)<br>660 (310 — 715)       |
|                                 | P6  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,045<br>0.0018 | 0,07<br>0.0028  | 0,085<br>0.0033 | 200 (95 — 220)<br>660 (310 — 715)       |
|                                 | P7  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,045<br>0.0018 | 0,07<br>0.0028  | 0,085<br>0.0033 | 200 (95 — 220)<br>660 (310 — 715)       |
| Stainless steel and S-materials | P8  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,045<br>0.0018 | 0,07<br>0.0028  | 0,085<br>0.0033 | 200 (95 — 220)<br>660 (310 — 715)       |
|                                 | P11 | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,045<br>0.0018 | 0,07<br>0.0028  | 0,085<br>0.0033 | 180 (80 — 200)<br>590 (270 — 650)       |
|                                 | P12 | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,035<br>0.0014 | 0,07<br>0.0028  | 0,06<br>0.0024  | 130 (60 — 140)<br>425 (200 — 460)       |
|                                 | M1  | E/M/A                                                                             | 0,20<br>0.20        | 0,20<br>0.20        | 0,055<br>0.0022 | 0,075<br>0.0030 | 0,095<br>0.0037 | 220 (100 — 240)<br>720 (330 — 790)      |
|                                 | M2  | E/M/A                                                                             | 0,20<br>0.20        | 0,20<br>0.20        | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0033 | 180 (80 — 200)<br>590 (270 — 650)       |
| Non ferrous                     | M3  | E/M/A                                                                             | 0,20<br>0.20        | 0,20<br>0.20        | 0,04<br>0.0016  | 0,06<br>0.0024  | 0,07<br>0.0028  | 145 (65 — 155)<br>475 (210 — 510)       |
|                                 | M4  | E/M/A                                                                             | 0,20<br>0.20        | 0,20<br>0.20        | 0,035<br>0.0014 | 0,05<br>0.0020  | 0,06<br>0.0024  | 110 (50 — 120)<br>360 (160 — 390)       |
|                                 | M5  | E/M/A                                                                             | 0,20<br>0.20        | 0,20<br>0.20        | 0,035<br>0.0014 | 0,05<br>0.0020  | 0,06<br>0.0024  | 90 (40 — 100)<br>295 (140 — 330)        |
| Hard                            | K1  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0033 | 215 (100 — 235)<br>710 (340 — 770)      |
|                                 | K2  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0033 | 190 (90 — 205)<br>620 (300 — 675)       |
| Plastic and cfrp                | K3  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0033 | 160 (75 — 175)<br>520 (250 — 570)       |
|                                 | K4  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0033 | 150 (70 — 165)<br>490 (240 — 540)       |
|                                 | K5  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,04<br>0.0016  | 0,065<br>0.0026 | 0,075<br>0.0030 | 80 (45 — 100)<br>260 (145 — 330)        |
|                                 | K6  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,05<br>0.0020  | 0,07<br>0.0028  | 0,085<br>0.0033 | 115 (65 — 145)<br>375 (210 — 480)       |
|                                 | K7  | E/M/A/D                                                                           | 0,20<br>0.20        | 0,20<br>0.20        | 0,04<br>0.0016  | 0,065<br>0.0026 | 0,075<br>0.0030 | 100 (60 — 130)<br>330 (190 — 425)       |
|                                 | N1  | E/M/A                                                                             | 0,20<br>0.20        | 0,20<br>0.20        | 0,07<br>0.0028  | 0,095<br>0.0037 | 0,12<br>0.0047  | 1250 (775 — 1800)<br>4100 (2540 — 5900) |
|                                 | N2  | E/M/A                                                                             | 0,20<br>0.20        | 0,20<br>0.20        | 0,07<br>0.0028  | 0,095<br>0.0037 | 0,12<br>0.0047  | 570 (310 — 720)<br>1870 (1020 — 2370)   |
| Graphite                        | N3  | E/M/A                                                                             | 0,20<br>0.20        | 0,20<br>0.20        | 0,07<br>0.0028  | 0,095<br>0.0037 | 0,12<br>0.0047  | 380 (210 — 480)<br>1240 (680 — 1580)    |
|                                 | N11 | E/M/A                                                                             | 0,20<br>0.20        | 0,20<br>0.20        | 0,07<br>0.0028  | 0,095<br>0.0037 | 0,12<br>0.0047  | 610 (240 — 555)<br>2000 (780 — 1820)    |
| X-Heads                         | S1  | E                                                                                 | 0,20<br>0.20        | 0,20<br>0.20        | 0,035<br>0.0014 | 0,045<br>0.0018 | 0,06<br>0.0024  | 30 (17 — 40)<br>100 (55 — 125)          |
|                                 | S2  | E                                                                                 | 0,20<br>0.20        | 0,20<br>0.20        | 0,035<br>0.0014 | 0,045<br>0.0018 | 0,06<br>0.0024  | 24 (15 — 31)<br>80 (44 — 102)           |
|                                 | S3  | E                                                                                 | 0,20<br>0.20        | 0,20<br>0.20        | 0,035<br>0.0014 | 0,045<br>0.0018 | 0,06<br>0.0024  | 21 (12 — 27)<br>70 (38 — 88)            |
|                                 | S11 | E                                                                                 | 0,20<br>0.20        | 0,20<br>0.20        | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 43 (25 — 55)<br>140 (80 — 180)          |
|                                 | S12 | E                                                                                 | 0,20<br>0.20        | 0,20<br>0.20        | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 33 (20 — 42)<br>108 (60 — 138)          |
| Minimaster                      | S13 | E                                                                                 | 0,20<br>0.20        | 0,20<br>0.20        | 0,035<br>0.0014 | 0,045<br>0.0018 | 0,06<br>0.0024  | 26 (15 — 33)<br>85 (50 — 110)           |
|                                 | H5  | M/A                                                                               | 0,20<br>0.20        | 0,20<br>0.20        | 0,035<br>0.0014 | 0,045<br>0.0018 | 0,06<br>0.0024  | 60 (30 — 70)<br>195 (105 — 240)         |
|                                 | H8  | M/A                                                                               | 0,20<br>0.20        | 0,20<br>0.20        | 0,025<br>0.0010 | 0,035<br>0.0014 | 0,05<br>0.0020  | 60 (30 — 70)<br>195 (105 — 240)         |
|                                 | H21 | M/A                                                                               | 0,20<br>0.20        | 0,20<br>0.20        | 0,025<br>0.0010 | 0,035<br>0.0014 | 0,05<br>0.0020  | 60 (30 — 70)<br>195 (105 — 240)         |
|                                 | H31 | M/A                                                                               | 0,20<br>0.20        | 0,20<br>0.20        | 0,025<br>0.0010 | 0,035<br>0.0014 | 0,05<br>0.0020  | 45 (25 — 55)<br>145 (80 — 185)          |

#### XS5061

High performance – Universal – Chamfer –6 Flutes



- Tolerances:
- PSIR=  $\pm 0,5^\circ$
- Regrind possible if DC is  $\geq \varnothing 12$  mm



| Designation           | Item number | Length index | Tool shape | CZCMS | DC   | DCX  | DCSFMS | APMXS | LF   | PSIR° | PCEDC | SW   | Grade |
|-----------------------|-------------|--------------|------------|-------|------|------|--------|-------|------|-------|-------|------|-------|
|                       |             |              |            |       | mm   | mm   | mm     | mm    | mm   |       |       |      | SIRA  |
| XS5061-E10100N1SZ6T45 | 10219277    | 1            | N          | E10   | 1,95 | 10,1 | 9,7    | 4,075 | 12,3 | 45,0  | 6     | 8,0  | ■     |
| XS5061-E12120N1SZ6T45 | 10219278    | 1            | N          | E12   | 2,95 | 12,1 | 11,7   | 4,575 | 14,4 | 45,0  | 6     | 10,0 | ■     |
| XS5061-E16160N1SZ6T45 | 10219279    | 1            | N          | E16   | 3,95 | 16,1 | 15,5   | 6,075 | 18,6 | 45,0  | 6     | 12,0 | ■     |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

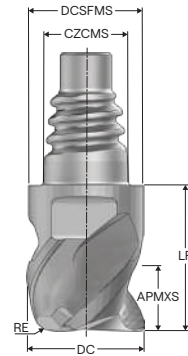
Minimaster

## Cutting data – XS5061 Chamfering

|                                 | SMG |  | $a_e/DCX$    | $a_p/DCX$    | $f_z$           |                 |                 | $v_c$                                   |
|---------------------------------|-----|-----------------------------------------------------------------------------------|--------------|--------------|-----------------|-----------------|-----------------|-----------------------------------------|
|                                 |     |                                                                                   |              |              | 10              | 12              | 16              |                                         |
| Universal                       | P1  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,065<br>0.0026 | 0,075<br>0.0030 | 275 (135 — 310)<br>900 (440 — 1010)     |
|                                 | P2  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,065<br>0.0026 | 0,075<br>0.0030 | 270 (130 — 300)<br>890 (425 — 975)      |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,065<br>0.0026 | 0,075<br>0.0030 | 235 (110 — 260)<br>770 (370 — 850)      |
|                                 | P4  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,06<br>0.0024  | 0,07<br>0.0028  | 220 (105 — 250)<br>720 (350 — 810)      |
|                                 | P5  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,06<br>0.0024  | 0,07<br>0.0028  | 200 (95 — 220)<br>660 (310 — 715)       |
|                                 | P6  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 200 (95 — 220)<br>660 (310 — 715)       |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 200 (95 — 220)<br>660 (310 — 715)       |
|                                 | P8  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 200 (95 — 220)<br>660 (310 — 715)       |
|                                 | P11 | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 180 (80 — 200)<br>590 (270 — 650)       |
|                                 | P12 | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,03<br>0.0012  | 0,055<br>0.0022 | 0,05<br>0.0020  | 130 (60 — 140)<br>425 (200 — 460)       |
| Non ferrous                     | M1  | E/M/A                                                                             | 0,20<br>0.20 | 0,20<br>0.20 | 0,045<br>0.0018 | 0,065<br>0.0026 | 0,075<br>0.0030 | 220 (100 — 240)<br>720 (330 — 790)      |
|                                 | M2  | E/M/A                                                                             | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 180 (80 — 200)<br>590 (270 — 650)       |
|                                 | M3  | E/M/A                                                                             | 0,20<br>0.20 | 0,20<br>0.20 | 0,035<br>0.0014 | 0,05<br>0.0020  | 0,055<br>0.0022 | 145 (65 — 155)<br>475 (210 — 510)       |
|                                 | M4  | E/M/A                                                                             | 0,20<br>0.20 | 0,20<br>0.20 | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 110 (50 — 120)<br>360 (160 — 390)       |
| Hard                            | M5  | E/M/A                                                                             | 0,20<br>0.20 | 0,20<br>0.20 | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 90 (40 — 100)<br>295 (140 — 330)        |
| Plastic and cfrp                | K1  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 215 (100 — 235)<br>710 (340 — 770)      |
|                                 | K2  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 190 (90 — 205)<br>620 (300 — 675)       |
|                                 | K3  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 160 (75 — 175)<br>520 (250 — 570)       |
|                                 | K4  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 150 (70 — 165)<br>490 (240 — 540)       |
|                                 | K5  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,035<br>0.0014 | 0,05<br>0.0020  | 0,065<br>0.0026 | 80 (45 — 100)<br>260 (145 — 330)        |
|                                 | K6  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,04<br>0.0016  | 0,055<br>0.0022 | 0,07<br>0.0028  | 115 (65 — 145)<br>375 (210 — 480)       |
|                                 | K7  | E/M/A/D                                                                           | 0,20<br>0.20 | 0,20<br>0.20 | 0,035<br>0.0014 | 0,05<br>0.0020  | 0,065<br>0.0026 | 100 (60 — 130)<br>330 (190 — 425)       |
| Graphite                        | N1  | E/M/A                                                                             | 0,20<br>0.20 | 0,20<br>0.20 | 0,055<br>0.0022 | 0,075<br>0.0030 | 0,1<br>0.0039   | 1250 (775 — 1800)<br>4100 (2540 — 5900) |
|                                 | N2  | E/M/A                                                                             | 0,20<br>0.20 | 0,20<br>0.20 | 0,055<br>0.0022 | 0,075<br>0.0030 | 0,1<br>0.0039   | 570 (310 — 720)<br>1870 (1020 — 2370)   |
|                                 | N3  | E/M/A                                                                             | 0,20<br>0.20 | 0,20<br>0.20 | 0,055<br>0.0022 | 0,075<br>0.0030 | 0,1<br>0.0039   | 380 (210 — 480)<br>1240 (680 — 1580)    |
|                                 | N11 | E/M/A                                                                             | 0,20<br>0.20 | 0,20<br>0.20 | 0,055<br>0.0022 | 0,075<br>0.0030 | 0,1<br>0.0039   | 610 (240 — 555)<br>2000 (780 — 1820)    |
| X-Heads                         | S1  | E                                                                                 | 0,20<br>0.20 | 0,20<br>0.20 | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 30 (17 — 40)<br>100 (55 — 125)          |
|                                 | S2  | E                                                                                 | 0,20<br>0.20 | 0,20<br>0.20 | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 24 (15 — 31)<br>80 (44 — 102)           |
|                                 | S3  | E                                                                                 | 0,20<br>0.20 | 0,20<br>0.20 | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 21 (12 — 27)<br>70 (38 — 88)            |
|                                 | S11 | E                                                                                 | 0,20<br>0.20 | 0,20<br>0.20 | 0,035<br>0.0014 | 0,045<br>0.0018 | 0,055<br>0.0022 | 43 (25 — 55)<br>140 (80 — 180)          |
| Minimaster                      | S12 | E                                                                                 | 0,20<br>0.20 | 0,20<br>0.20 | 0,035<br>0.0014 | 0,045<br>0.0018 | 0,055<br>0.0022 | 33 (20 — 42)<br>108 (60 — 138)          |
|                                 | S13 | E                                                                                 | 0,20<br>0.20 | 0,20<br>0.20 | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 26 (15 — 33)<br>85 (50 — 110)           |
|                                 | H5  | M/A                                                                               | 0,20<br>0.20 | 0,20<br>0.20 | 0,03<br>0.0012  | 0,04<br>0.0016  | 0,05<br>0.0020  | 60 (30 — 70)<br>195 (105 — 240)         |
|                                 | H8  | M/A                                                                               | 0,20<br>0.20 | 0,20<br>0.20 | 0,02<br>0.0008  | 0,03<br>0.0012  | 0,04<br>0.0016  | 60 (30 — 70)<br>195 (105 — 240)         |
|                                 | H21 | M/A                                                                               | 0,20<br>0.20 | 0,20<br>0.20 | 0,02<br>0.0008  | 0,03<br>0.0012  | 0,04<br>0.0016  | 60 (30 — 70)<br>195 (105 — 240)         |
|                                 | H31 | M/A                                                                               | 0,20<br>0.20 | 0,20<br>0.20 | 0,02<br>0.0008  | 0,03<br>0.0012  | 0,04<br>0.0016  | 45 (25 — 55)<br>145 (80 — 185)          |

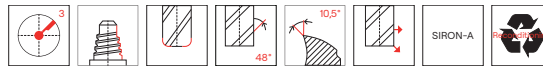
#### XVE540

General purpose – Universal – Square – 3 Flutes – Corner radius



D

- Tolerances:
- DC= h9
- RE=  $\pm 0,015$  mm
- Regrind possible if DC is  $\geq \varnothing 12$  mm



| Designation          | Item number | Length index | Tool shape | CZCMS | DC   | DCSFMS | APMXS | LF   | RE  | PCEDC | SW   | Grade |
|----------------------|-------------|--------------|------------|-------|------|--------|-------|------|-----|-------|------|-------|
|                      |             |              |            |       | mm   | mm     | mm    | mm   | mm  |       |      | SIRA  |
| XVE540E10100D1R050Z3 | 10137981    | 1            | D          | E10   | 10,0 | 9,7    | 5,5   | 12,4 | 0,5 | 3     | 8,0  | ■     |
| XVE540E12120D1R050Z3 | 10137982    | 1            | D          | E12   | 12,0 | 11,7   | 6,5   | 14,5 | 0,5 | 3     | 10,0 | ■     |
| XVE540E16160D1R050Z3 | 10137983    | 1            | D          | E16   | 16,0 | 15,5   | 8,5   | 18,7 | 0,5 | 3     | 12,0 | ■     |
| XVE540E20200D1R050Z3 | 10137984    | 1            | D          | E20   | 20,0 | 19,3   | 11,0  | 21,3 | 0,5 | 3     | 16,0 | ■     |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

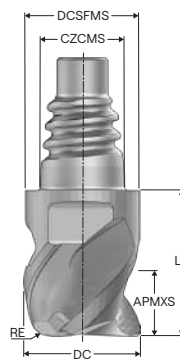
Graphite

X-Heads

Minimaster

#### XVE540

General purpose – Universal – Square – 3 Flutes – Corner radius



D

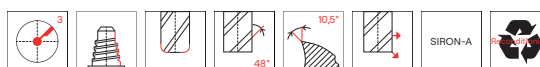
—Tolerances:

—DC= h9

—RE= .015 Inch= ±.0006 Inch

—RE= .031 Inch= ±.0012 Inch

—Regrind possible if DC is ≥Ø.500 Inch



| Designation           | Item number | Length index | Tool shape | CZCMS | DC    | DCSFMS | APMXS | LF    | RE    | PCEDC | SW   | Grade |
|-----------------------|-------------|--------------|------------|-------|-------|--------|-------|-------|-------|-------|------|-------|
|                       |             |              |            |       | Inch  | Inch   | Inch  | Inch  | Inch  |       |      | SIRA  |
| XVE540E10.375D1R015Z3 | 10137985    | 1            | D          | E10   | 0.375 | 0.364  | 0.209 | 0.488 | 0.015 | 3     | 8,0  | ■     |
| XVE540E12.500D1R015Z3 | 10137986    | 1            | D          | E12   | 0.500 | 0.484  | 0.276 | 0.575 | 0.015 | 3     | 10,0 | ■     |
| XVE540E16.625D1R015Z3 | 10137987    | 1            | D          | E16   | 0.625 | 0.610  | 0.335 | 0.736 | 0.015 | 3     | 12,0 | ■     |
| XVE540E20.750D1R031Z3 | 10137988    | 1            | D          | E20   | 0.750 | 0.728  | 0.413 | 0.839 | 0.031 | 3     | 16,0 | ■     |

■ Stocked standard.



## Cutting data – XVE540 – Side milling PCEDC 3

| SMG |  | $a_e/DC$     | $a_p/DC$     | $f_z$           |                 |                 |                 | $v_c$                                 |                                 |
|-----|-----------------------------------------------------------------------------------|--------------|--------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |              |              | 10              | 12              | 16              | 20              |                                       |                                 |
| P1  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,090<br>0,0036 | 175 (140 — 220)<br>570 (460 — 720)    | Universal                       |
| P2  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,090<br>0,0036 | 170 (130 — 210)<br>560 (430 — 680)    |                                 |
| P3  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 150 (120 — 180)<br>490 (400 — 590)    | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 135 (100 — 160)<br>445 (330 — 520)    |                                 |
| P5  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,085<br>0,0034 | 125 (96 — 150)<br>410 (320 — 490)     | Stainless steel and S-materials |
| P6  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,048<br>0,0019 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,080<br>0,0032 | 145 (110 — 170)<br>475 (370 — 550)    |                                 |
| P7  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,048<br>0,0019 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,080<br>0,0032 | 135 (110 — 160)<br>445 (370 — 520)    | Non ferrous                     |
| P8  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 125 (96 — 150)<br>410 (320 — 490)     |                                 |
| P11 | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 80 (70 — 93)<br>260 (230 — 300)       | Hard                            |
| P12 | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,034<br>0,0013 | 0,040<br>0,0016 | 0,050<br>0,0020 | 0,060<br>0,0024 | 50 (45 — 59)<br>165 (150 — 190)       |                                 |
| M1  | E/M/A                                                                             | 0,50<br>0,50 | 0,50<br>0,50 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,095<br>0,0038 | 95 (81 — 100)<br>310 (270 — 320)      | Plastic and cf/p                |
| M2  | E/M/A                                                                             | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 75 (67 — 88)<br>245 (220 — 280)       |                                 |
| M3  | E/M/A                                                                             | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 50 (39 — 60)<br>165 (130 — 190)       | Graphite                        |
| M4  | E/M/A                                                                             | 0,50<br>0,50 | 0,50<br>0,50 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 38 (30 — 46)<br>125 (99 — 150)        |                                 |
| M5  | E/M/A                                                                             | 0,50<br>0,50 | 0,50<br>0,50 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 32 (25 — 39)<br>105 (83 — 120)        | X-Heads                         |
| K1  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 155 (140 — 170)<br>510 (460 — 550)    |                                 |
| K2  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,046<br>0,0018 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,075<br>0,0030 | 135 (120 — 150)<br>445 (400 — 490)    | Minimaster                      |
| K3  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,046<br>0,0018 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,075<br>0,0030 | 115 (99 — 130)<br>375 (330 — 420)     |                                 |
| K4  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,046<br>0,0018 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,075<br>0,0030 | 110 (95 — 120)<br>360 (320 — 390)     | X-Heads                         |
| K5  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 140 (120 — 150)<br>460 (400 — 490)    |                                 |
| K6  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,095<br>0,0038 | 200 (170 — 220)<br>660 (560 — 720)    | Minimaster                      |
| K7  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 175 (150 — 190)<br>570 (500 — 620)    |                                 |
| N1  | E/M/A                                                                             | 0,40<br>0,40 | 0,50<br>0,50 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 550 (510 — 710)<br>1800 (1700 — 2300) | X-Heads                         |
| N2  | E/M/A                                                                             | 0,40<br>0,40 | 0,50<br>0,50 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 355 (330 — 450)<br>1175 (1100 — 1400) |                                 |
| N3  | E/M/A                                                                             | 0,40<br>0,40 | 0,50<br>0,50 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 235 (220 — 300)<br>770 (730 — 980)    | Minimaster                      |
| N11 | E/M/A                                                                             | 0,50<br>0,50 | 0,50<br>0,50 | 0,070<br>0,0028 | 0,080<br>0,0032 | 0,11<br>0,0044  | 0,13<br>0,0050  | 300 (250 — 340)<br>980 (830 — 1100)   |                                 |
| S1  | E                                                                                 | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 30 (24 — 37)<br>100 (79 — 120)        | Minimaster                      |
| S2  | E                                                                                 | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 25 (19 — 32)<br>80 (63 — 100)         |                                 |
| S3  | E                                                                                 | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 22 (17 — 27)<br>70 (56 — 88)          | Minimaster                      |
| S11 | E                                                                                 | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 100 (72 — 120)<br>330 (240 — 390)     |                                 |
| S12 | E                                                                                 | 0,50<br>0,50 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 75 (56 — 99)<br>245 (190 — 320)       | Minimaster                      |
| S13 | E                                                                                 | 0,50<br>0,50 | 0,50<br>0,50 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 60 (44 — 79)<br>195 (150 — 250)       |                                 |
| TS1 | A/D                                                                               | 0,40<br>0,40 | 0,50<br>0,50 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 255 (160 — 350)<br>840 (530 — 1100)   | Minimaster                      |
| TP1 | A/D                                                                               | 0,40<br>0,40 | 0,50<br>0,50 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 255 (160 — 350)<br>840 (530 — 1100)   |                                 |
| GR1 | A/D                                                                               | 0,40<br>0,40 | 0,50<br>0,50 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 610 (510 — 710)<br>2000 (1700 — 2300) |                                 |

## Cutting data – XVE540 – Slot milling PCEDC 3

|                                 | SMG |  | $a_p/DC$     | $f_z$           |                 |                 |                 | $v_c$                                 |
|---------------------------------|-----|-----------------------------------------------------------------------------------|--------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|                                 |     |                                                                                   |              | 10              | 12              | 16              | 20              |                                       |
| Universal                       | P1  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 165 (130 — 200)<br>540 (430 — 650)    |
|                                 | P2  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 160 (120 — 190)<br>520 (400 — 620)    |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 135 (110 — 170)<br>445 (370 — 550)    |
|                                 | P4  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 120 (90 — 140)<br>395 (300 — 450)     |
|                                 | P5  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 115 (86 — 140)<br>375 (290 — 450)     |
|                                 | P6  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 130 (97 — 160)<br>425 (320 — 520)     |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 120 (92 — 150)<br>395 (310 — 490)     |
|                                 | P8  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 115 (86 — 140)<br>375 (290 — 450)     |
|                                 | P11 | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 75 (64 — 84)<br>245 (210 — 270)       |
|                                 | P12 | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,040<br>0.0016 | 0,050<br>0.0020 | 0,060<br>0.0024 | 44 (38 — 49)<br>145 (130 — 160)       |
| Non ferrous                     | M1  | E/M/A                                                                             | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 85 (75 — 99)<br>280 (250 — 320)       |
|                                 | M2  | E/M/A                                                                             | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 70 (60 — 79)<br>230 (200 — 250)       |
|                                 | M3  | E/M/A                                                                             | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 45 (35 — 55)<br>150 (120 — 180)       |
|                                 | M4  | E/M/A                                                                             | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 34 (27 — 41)<br>110 (89 — 130)        |
| Hard                            | M5  | E/M/A                                                                             | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 28 (22 — 34)<br>90 (73 — 110)         |
|                                 | K1  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 140 (120 — 150)<br>460 (400 — 490)    |
|                                 | K2  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 120 (110 — 130)<br>395 (370 — 420)    |
|                                 | K3  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 105 (89 — 110)<br>345 (300 — 360)     |
| Plastic and cfrp                | K4  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 100 (85 — 110)<br>330 (280 — 360)     |
|                                 | K5  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 125 (110 — 140)<br>410 (370 — 450)    |
|                                 | K6  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 185 (150 — 200)<br>610 (500 — 650)    |
|                                 | K7  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 160 (130 — 170)<br>520 (430 — 550)    |
| Graphite                        | N1  | E/M/A                                                                             | 0,30<br>0.30 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 540 (510 — 700)<br>1775 (1700 — 2200) |
|                                 | N2  | E/M/A                                                                             | 0,30<br>0.30 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 345 (330 — 450)<br>1125 (1100 — 1400) |
|                                 | N3  | E/M/A                                                                             | 0,30<br>0.30 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 230 (220 — 300)<br>750 (730 — 980)    |
|                                 | N11 | E/M/A                                                                             | 0,30<br>0.30 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 300 (260 — 350)<br>980 (860 — 1100)   |
| X-Heads                         | S1  | E                                                                                 | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 27 (22 — 34)<br>90 (73 — 110)         |
|                                 | S2  | E                                                                                 | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 23 (18 — 29)<br>75 (60 — 95)          |
|                                 | S3  | E                                                                                 | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 20 (15 — 24)<br>65 (50 — 78)          |
|                                 | S11 | E                                                                                 | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 90 (66 — 110)<br>295 (220 — 360)      |
| Minimaster                      | S12 | E                                                                                 | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 70 (51 — 90)<br>230 (170 — 290)       |
|                                 | S13 | E                                                                                 | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 55 (39 — 69)<br>180 (130 — 220)       |
|                                 | TS1 | A/D                                                                               | 0,30<br>0.30 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 250 (150 — 350)<br>820 (500 — 1100)   |
|                                 | TP1 | A/D                                                                               | 0,30<br>0.30 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 250 (150 — 350)<br>820 (500 — 1100)   |
|                                 | GR1 | A/D                                                                               | 0,30<br>0.30 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 600 (500 — 700)<br>1975 (1700 — 2200) |

## Cutting data – XVE540 – Side milling PCEDC 3 inch

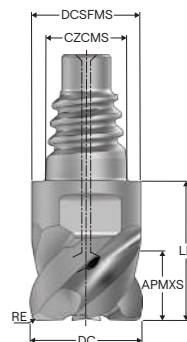
| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 |                 | v <sub>c</sub>                        |                                 |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                    |                    | 3/8             | 1/2             | 5/8             | 3/4             |                                       |                                 |
| P1  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 185 (150 — 210)<br>610 (500 — 680)    | Universal                       |
| P2  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 180 (150 — 200)<br>590 (500 — 650)    |                                 |
| P3  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 155 (130 — 180)<br>510 (430 — 590)    | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 140 (120 — 160)<br>460 (400 — 520)    |                                 |
| P5  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 110 (89 — 130)<br>360 (300 — 420)     |                                 |
| P6  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 125 (100 — 140)<br>410 (330 — 450)    |                                 |
| P7  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 115 (94 — 140)<br>375 (310 — 450)     | Stainless steel and S-materials |
| P8  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 110 (89 — 130)<br>360 (300 — 420)     |                                 |
| P11 | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 95 (70 — 110)<br>310 (230 — 360)      |                                 |
| P12 | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,034<br>0.0013 | 0,040<br>0.0016 | 0,050<br>0.0020 | 0,060<br>0.0024 | 60 (45 — 73)<br>195 (150 — 230)       |                                 |
| M1  | E/M/A                                                                             | 0,50<br>0.50       | 0,50<br>0.50       | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,095<br>0.0038 | 105 (81 — 130)<br>345 (270 — 420)     | Non ferrous                     |
| M2  | E/M/A                                                                             | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 90 (67 — 110)<br>295 (220 — 360)      |                                 |
| M3  | E/M/A                                                                             | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 75 (56 — 99)<br>245 (190 — 320)       |                                 |
| M4  | E/M/A                                                                             | 0,50<br>0.50       | 0,50<br>0.50       | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 60 (43 — 76)<br>195 (150 — 240)       |                                 |
| M5  | E/M/A                                                                             | 0,50<br>0.50       | 0,50<br>0.50       | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 50 (36 — 63)<br>165 (120 — 200)       | Hard                            |
| K1  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 140 (120 — 160)<br>460 (400 — 520)    |                                 |
| K2  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,075<br>0.0030 | 120 (110 — 140)<br>395 (370 — 450)    |                                 |
| K3  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,075<br>0.0030 | 105 (87 — 110)<br>345 (290 — 360)     |                                 |
| K4  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 110 (89 — 130)<br>360 (300 — 420)     | Plastic and cf/p                |
| K5  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,075<br>0.0030 | 65 (54 — 80)<br>215 (180 — 260)       |                                 |
| K6  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 95 (78 — 110)<br>310 (260 — 360)      |                                 |
| K7  | E/M/A/D                                                                           | 0,50<br>0.50       | 0,50<br>0.50       | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,075<br>0.0030 | 85 (69 — 100)<br>280 (230 — 320)      |                                 |
| N1  | E/M/A                                                                             | 0,40<br>0.40       | 0,50<br>0.50       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 610 (510 — 710)<br>2000 (1700 — 2300) | Graphite                        |
| N2  | E/M/A                                                                             | 0,40<br>0.40       | 0,50<br>0.50       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 395 (330 — 450)<br>1300 (1100 — 1400) |                                 |
| N3  | E/M/A                                                                             | 0,40<br>0.40       | 0,50<br>0.50       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 260 (220 — 300)<br>850 (730 — 980)    |                                 |
| N11 | E/M/A                                                                             | 0,50<br>0.50       | 0,50<br>0.30       | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,11<br>0.0044  | 0,13<br>0.0055  | 300 (250 — 340)<br>1025 (860 — 1100)  |                                 |
| S1  | E                                                                                 | 0,50<br>0.50       | 0,50<br>0.50       | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 39 (32 — 46)<br>130 (110 — 150)       | X-Heads                         |
| S2  | E                                                                                 | 0,50<br>0.50       | 0,50<br>0.50       | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 31 (26 — 37)<br>100 (86 — 120)        |                                 |
| S3  | E                                                                                 | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 28 (23 — 33)<br>90 (76 — 100)         |                                 |
| S11 | E                                                                                 | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 115 (87 — 140)<br>375 (290 — 450)     |                                 |
| S12 | E                                                                                 | 0,50<br>0.50       | 0,50<br>0.50       | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 90 (67 — 110)<br>295 (220 — 360)      | Minimaster                      |
| S13 | E                                                                                 | 0,50<br>0.50       | 0,50<br>0.50       | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 70 (53 — 87)<br>230 (180 — 280)       |                                 |
| TS1 | A/D                                                                               | 0,40<br>0.40       | 0,50<br>0.50       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 255 (160 — 350)<br>840 (530 — 1100)   |                                 |
| TP1 | A/D                                                                               | 0,40<br>0.40       | 0,50<br>0.50       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 255 (160 — 350)<br>840 (530 — 1100)   |                                 |
| GR1 | A/D                                                                               | 0,40<br>0.40       | 0,50<br>0.50       | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 610 (510 — 710)<br>2000 (1700 — 2300) |                                 |

## Cutting data – XVE540 – Slot milling PCEDC 3 inch

|                                 | SMG |  | $a_p/DC$     | $f_z$           |                 |                 |                 | $v_c$                                 |
|---------------------------------|-----|-----------------------------------------------------------------------------------|--------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|                                 |     |                                                                                   |              | 3/8             | 1/2             | 5/8             | 3/4             |                                       |
| Universal                       | P1  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 170 (140 — 190)<br>560 (460 — 620)    |
|                                 | P2  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 165 (140 — 190)<br>540 (460 — 620)    |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 140 (120 — 160)<br>460 (400 — 520)    |
|                                 | P4  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 125 (100 — 140)<br>410 (330 — 450)    |
|                                 | P5  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 100 (81 — 120)<br>330 (270 — 390)     |
|                                 | P6  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 110 (90 — 130)<br>360 (300 — 420)     |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 105 (85 — 120)<br>345 (280 — 390)     |
|                                 | P8  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 100 (81 — 120)<br>330 (270 — 390)     |
|                                 | P11 | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 85 (64 — 100)<br>280 (210 — 320)      |
|                                 | P12 | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,040<br>0.0016 | 0,050<br>0.0020 | 0,060<br>0.0024 | 50 (38 — 62)<br>165 (130 — 200)       |
| Non ferrous                     | M1  | E/M/A                                                                             | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 100 (75 — 120)<br>330 (250 — 390)     |
|                                 | M2  | E/M/A                                                                             | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 80 (61 — 100)<br>260 (210 — 320)      |
|                                 | M3  | E/M/A                                                                             | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 70 (50 — 89)<br>230 (170 — 290)       |
|                                 | M4  | E/M/A                                                                             | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 50 (38 — 67)<br>165 (130 — 210)       |
| Hard                            | M5  | E/M/A                                                                             | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 44 (32 — 56)<br>145 (110 — 180)       |
|                                 | K1  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 125 (110 — 140)<br>410 (370 — 450)    |
|                                 | K2  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 110 (92 — 120)<br>360 (310 — 390)     |
|                                 | K3  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 90 (78 — 100)<br>295 (260 — 320)      |
| Plastic and cfrp                | K4  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 100 (81 — 120)<br>330 (270 — 390)     |
|                                 | K5  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 60 (48 — 71)<br>195 (160 — 230)       |
|                                 | K6  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 90 (71 — 100)<br>295 (240 — 320)      |
|                                 | K7  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 75 (61 — 91)<br>245 (210 — 290)       |
| Graphite                        | N1  | E/M/A                                                                             | 0,30<br>0.30 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 600 (500 — 700)<br>1975 (1700 — 2200) |
|                                 | N2  | E/M/A                                                                             | 0,30<br>0.30 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 385 (330 — 450)<br>1275 (1100 — 1400) |
|                                 | N3  | E/M/A                                                                             | 0,30<br>0.30 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 255 (220 — 300)<br>840 (730 — 980)    |
|                                 | N11 | E/M/A                                                                             | 0,30<br>0.30 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 300 (260 — 340)<br>980 (860 — 1100)   |
| X-Heads                         | S1  | E                                                                                 | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 36 (29 — 43)<br>120 (96 — 140)        |
|                                 | S2  | E                                                                                 | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 29 (24 — 34)<br>95 (79 — 110)         |
|                                 | S3  | E                                                                                 | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 25 (20 — 30)<br>80 (66 — 98)          |
|                                 | S11 | E                                                                                 | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 105 (79 — 130)<br>345 (260 — 420)     |
| Minimaster                      | S12 | E                                                                                 | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 80 (61 — 100)<br>260 (210 — 320)      |
|                                 | S13 | E                                                                                 | 0,50<br>0.50 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 60 (47 — 77)<br>195 (160 — 250)       |
|                                 | TS1 | A/D                                                                               | 0,30<br>0.30 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 250 (150 — 350)<br>820 (500 — 1100)   |
|                                 | TP1 | A/D                                                                               | 0,30<br>0.30 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 250 (150 — 350)<br>820 (500 — 1100)   |
|                                 | GR1 | A/D                                                                               | 0,30<br>0.30 | 0,034<br>0.0013 | 0,042<br>0.0017 | 0,055<br>0.0022 | 0,070<br>0.0028 | 600 (500 — 700)<br>1975 (1700 — 2200) |

#### XVE540

General purpose – Universal – Square – 4 Flutes – Corner radius



D

- Tolerances:
- DC= h9
- RE=  $\pm 0,015$  mm
- Regrind possible if DC is  $\geq \varnothing 12$  mm



| Designation           | Item number | Length index | Tool shape | CSP | CZCMS | DC   | DCSFMS | APMXS | LF   | RE  | PCEDC | SW   | Grade |
|-----------------------|-------------|--------------|------------|-----|-------|------|--------|-------|------|-----|-------|------|-------|
|                       |             |              |            |     |       | mm   | mm     | mm    | mm   | mm  |       |      | SIRA  |
| XVE540E10100D1R050Z4A | 10137989    | 1            | D          | ■   | E10   | 10,0 | 9,7    | 6,0   | 12,4 | 0,5 | 4     | 8,0  | ■     |
| XVE540E12120D1R050Z4A | 10137990    | 1            | D          | ■   | E12   | 12,0 | 11,7   | 7,5   | 14,5 | 0,5 | 4     | 10,0 | ■     |
| XVE540E16160D1R050Z4A | 10137991    | 1            | D          | ■   | E16   | 16,0 | 15,5   | 10,0  | 18,7 | 0,5 | 4     | 12,0 | ■     |
| XVE540E20200D1R050Z4A | 10137992    | 1            | D          | ■   | E20   | 20,0 | 19,3   | 12,0  | 21,3 | 0,5 | 4     | 16,0 | ■     |

■ Stocked standard.

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

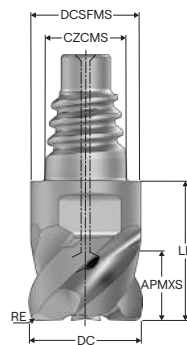
Graphite

X-Heads

Minimaster

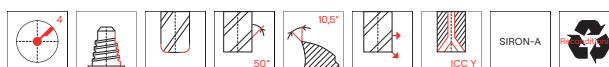
#### XVE540

General purpose – Universal – Square – 4 Flutes – Corner radius – Inch



D

- Tolerances:  
 —DC= h9  
 —RE= .015 Inch= ±.0006 Inch  
 —RE= .031 Inch= ±.0012 Inch  
 —Regrind possible if DC is ≥Ø.500 Inch



| Designation            | Item number | Length index | Tool shape | CSP | CZCMS | DC    | DCSFMS | APMXS | LF    | RE    | PCEDC | SW   | Grade |
|------------------------|-------------|--------------|------------|-----|-------|-------|--------|-------|-------|-------|-------|------|-------|
|                        |             |              |            |     |       | Inch  | Inch   | Inch  | Inch  | Inch  |       |      | SIRA  |
| XVE540E10.375D1R015Z4A | 10137993    | 1            | D          | ■   | E10   | 0.375 | 0.364  | 0.236 | 0.488 | 0.015 | 4     | 8,0  | ■     |
| XVE540E12.500D1R031Z4A | 10137994    | 1            | D          | ■   | E12   | 0.500 | 0.484  | 0.315 | 0.571 | 0.031 | 4     | 12,0 | ■     |
| XVE540E16.625D1R031Z4A | 10137995    | 1            | D          | ■   | E16   | 0.625 | 0.610  | 0.394 | 0.736 | 0.031 | 4     | 16,0 | ■     |
| XVE540E20.750D1R031Z4A | 10137996    | 1            | D          | ■   | E20   | 0.750 | 0.728  | 0.453 | 0.839 | 0.031 | 4     | 18,0 | ■     |

■ Stocked standard.

## Cutting data – XVE540 – Side milling PCEDC 4

| SMG |  | $a_e/DC$     | $a_p/DC$     | $f_z$           |                 |                 |                 | $v_c$                                 |                                 |
|-----|-----------------------------------------------------------------------------------|--------------|--------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |              |              | 10              | 12              | 16              | 20              |                                       |                                 |
| P1  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,090<br>0,0036 | 175 (140 — 210)<br>570 (460 — 680)    | Universal                       |
| P2  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,090<br>0,0036 | 170 (130 — 210)<br>560 (430 — 680)    |                                 |
| P3  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 150 (120 — 180)<br>490 (400 — 590)    | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 130 (99 — 160)<br>425 (330 — 520)     |                                 |
| P5  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,085<br>0,0034 | 125 (95 — 150)<br>410 (320 — 490)     |                                 |
| P6  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,048<br>0,0019 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,080<br>0,0032 | 140 (110 — 170)<br>460 (370 — 550)    |                                 |
| P7  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,048<br>0,0019 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,080<br>0,0032 | 135 (110 — 160)<br>445 (370 — 520)    | Stainless steel and S-materials |
| P8  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 125 (95 — 150)<br>410 (320 — 490)     |                                 |
| P11 | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 80 (70 — 92)<br>260 (230 — 300)       |                                 |
| P12 | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,034<br>0,0013 | 0,040<br>0,0016 | 0,050<br>0,0020 | 0,060<br>0,0024 | 50 (44 — 58)<br>165 (150 — 190)       |                                 |
| M1  | E/M/A                                                                             | 0,50<br>0,50 | 0,55<br>0,55 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,095<br>0,0038 | 95 (80 — 100)<br>310 (270 — 320)      | Non ferrous                     |
| M2  | E/M/A                                                                             | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 75 (66 — 87)<br>245 (220 — 280)       |                                 |
| M3  | E/M/A                                                                             | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 49 (39 — 60)<br>160 (130 — 190)       |                                 |
| M4  | E/M/A                                                                             | 0,50<br>0,50 | 0,55<br>0,55 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 38 (30 — 46)<br>125 (99 — 150)        |                                 |
| M5  | E/M/A                                                                             | 0,50<br>0,50 | 0,55<br>0,55 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 32 (25 — 38)<br>105 (83 — 120)        | Hard                            |
| K1  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 155 (140 — 170)<br>510 (460 — 550)    |                                 |
| K2  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,046<br>0,0018 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,075<br>0,0030 | 135 (120 — 150)<br>445 (400 — 490)    |                                 |
| K3  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,046<br>0,0018 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,075<br>0,0030 | 115 (99 — 130)<br>375 (330 — 420)     |                                 |
| K4  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,046<br>0,0018 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,075<br>0,0030 | 110 (94 — 120)<br>360 (310 — 390)     | Plastic and cf/p                |
| K5  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 135 (110 — 150)<br>445 (370 — 490)    |                                 |
| K6  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,080<br>0,0032 | 0,095<br>0,0038 | 200 (160 — 220)<br>660 (530 — 720)    |                                 |
| K7  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 175 (150 — 190)<br>570 (500 — 620)    |                                 |
| N1  | E/M/A                                                                             | 0,40<br>0,40 | 0,55<br>0,55 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 540 (510 — 700)<br>1775 (1700 — 2200) | Graphite                        |
| N2  | E/M/A                                                                             | 0,40<br>0,40 | 0,55<br>0,55 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 350 (330 — 450)<br>1150 (1100 — 1400) |                                 |
| N3  | E/M/A                                                                             | 0,40<br>0,40 | 0,55<br>0,55 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 235 (220 — 300)<br>770 (730 — 980)    |                                 |
| N11 | E/M/A                                                                             | 0,50<br>0,50 | 0,55<br>0,55 | 0,070<br>0,0028 | 0,080<br>0,0032 | 0,11<br>0,0044  | 0,13<br>0,0050  | 295 (250 — 340)<br>970 (830 — 1100)   |                                 |
| S1  | E                                                                                 | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 30 (24 — 37)<br>100 (79 — 120)        | X-Heads                         |
| S2  | E                                                                                 | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 25 (19 — 31)<br>80 (63 — 100)         |                                 |
| S3  | E                                                                                 | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 22 (17 — 27)<br>70 (56 — 88)          |                                 |
| S11 | E                                                                                 | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 100 (72 — 120)<br>330 (240 — 390)     |                                 |
| S12 | E                                                                                 | 0,50<br>0,50 | 0,55<br>0,55 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,085<br>0,0034 | 75 (55 — 98)<br>245 (190 — 320)       | Minimaster                      |
| S13 | E                                                                                 | 0,50<br>0,50 | 0,55<br>0,55 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,065<br>0,0026 | 0,075<br>0,0030 | 60 (44 — 78)<br>195 (150 — 250)       |                                 |
| TS1 | A/D                                                                               | 0,40<br>0,40 | 0,55<br>0,55 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 250 (160 — 350)<br>820 (530 — 1100)   |                                 |
| TP1 | A/D                                                                               | 0,40<br>0,40 | 0,55<br>0,55 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 250 (160 — 350)<br>820 (530 — 1100)   |                                 |
| GR1 | A/D                                                                               | 0,40<br>0,40 | 0,55<br>0,55 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,12<br>0,0048  | 0,14<br>0,0055  | 610 (510 — 700)<br>2000 (1700 — 2200) |                                 |

#### Cutting data – XVE540 – Slot milling PCEDC 4

|                                 | SMG |  | $a_p$ /DC    | $f_z$           |                 |                 |                 | $v_c$                                 |
|---------------------------------|-----|-----------------------------------------------------------------------------------|--------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|                                 |     |                                                                                   |              | 10              | 12              | 16              | 20              |                                       |
| Universal                       | P1  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 160 (130 — 200)<br>520 (430 — 650)    |
|                                 | P2  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 155 (120 — 190)<br>510 (400 — 620)    |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 135 (110 — 160)<br>445 (370 — 520)    |
|                                 | P4  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 120 (90 — 140)<br>395 (300 — 450)     |
|                                 | P5  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 115 (86 — 140)<br>375 (290 — 450)     |
|                                 | P6  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 125 (96 — 150)<br>410 (320 — 490)     |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 120 (91 — 150)<br>395 (300 — 490)     |
|                                 | P8  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 115 (86 — 140)<br>375 (290 — 450)     |
|                                 | P11 | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 75 (63 — 83)<br>245 (210 — 270)       |
|                                 | P12 | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,040<br>0,0016 | 0,050<br>0,0020 | 0,060<br>0,0024 | 43 (37 — 49)<br>140 (130 — 160)       |
| Non ferrous                     | M1  | E/M/A                                                                             | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 85 (74 — 98)<br>280 (250 — 320)       |
|                                 | M2  | E/M/A                                                                             | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 70 (60 — 79)<br>230 (200 — 250)       |
|                                 | M3  | E/M/A                                                                             | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 45 (35 — 54)<br>150 (120 — 170)       |
|                                 | M4  | E/M/A                                                                             | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 33 (26 — 40)<br>110 (86 — 130)        |
| Hard                            | M5  | E/M/A                                                                             | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 28 (22 — 34)<br>90 (73 — 110)         |
|                                 | K1  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 140 (120 — 150)<br>460 (400 — 490)    |
|                                 | K2  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 120 (110 — 130)<br>395 (370 — 420)    |
|                                 | K3  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 100 (88 — 110)<br>330 (290 — 360)     |
| Plastic and cfrp                | K4  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 95 (84 — 110)<br>310 (280 — 360)      |
|                                 | K5  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 125 (100 — 130)<br>410 (330 — 420)    |
|                                 | K6  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 185 (150 — 200)<br>610 (500 — 650)    |
|                                 | K7  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 160 (130 — 170)<br>520 (430 — 550)    |
| Graphite                        | N1  | E/M/A                                                                             | 0,30<br>0,30 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 530 (500 — 690)<br>1750 (1700 — 2200) |
|                                 | N2  | E/M/A                                                                             | 0,30<br>0,30 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 345 (320 — 440)<br>1125 (1100 — 1400) |
|                                 | N3  | E/M/A                                                                             | 0,30<br>0,30 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 230 (220 — 290)<br>750 (730 — 950)    |
|                                 | N11 | E/M/A                                                                             | 0,30<br>0,30 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 295 (250 — 340)<br>970 (830 — 1100)   |
| X-Heads                         | S1  | E                                                                                 | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 27 (21 — 33)<br>90 (69 — 100)         |
|                                 | S2  | E                                                                                 | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 23 (17 — 28)<br>75 (56 — 91)          |
|                                 | S3  | E                                                                                 | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 20 (15 — 24)<br>65 (50 — 78)          |
|                                 | S11 | E                                                                                 | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 90 (65 — 110)<br>295 (220 — 360)      |
| Minimaster                      | S12 | E                                                                                 | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 70 (50 — 89)<br>230 (170 — 290)       |
|                                 | S13 | E                                                                                 | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 55 (39 — 69)<br>180 (130 — 220)       |
|                                 | TS1 | A/D                                                                               | 0,30<br>0,30 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 250 (150 — 340)<br>820 (500 — 1100)   |
|                                 | TP1 | A/D                                                                               | 0,30<br>0,30 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 250 (150 — 340)<br>820 (500 — 1100)   |
|                                 | GR1 | A/D                                                                               | 0,30<br>0,30 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 590 (500 — 690)<br>1925 (1700 — 2200) |



## Cutting data – XVE540 – Side milling PCEDC 4 inch

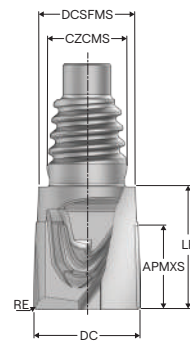
| SMG |  | $a_e/DC$     | $a_p/DC$     | $f_z$           |                 |                 |                 | $v_c$                                 |                                 |
|-----|-----------------------------------------------------------------------------------|--------------|--------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |              |              | 3/8             | 1/2             | 5/8             | 3/4             |                                       |                                 |
| P1  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 180 (150 — 210)<br>590 (500 — 680)    | Universal                       |
| P2  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 175 (150 — 200)<br>570 (500 — 650)    |                                 |
| P3  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 155 (130 — 180)<br>510 (430 — 590)    | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 135 (110 — 150)<br>445 (370 — 490)    |                                 |
| P5  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 110 (88 — 130)<br>360 (290 — 420)     |                                 |
| P6  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 125 (99 — 140)<br>410 (330 — 450)     |                                 |
| P7  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 115 (93 — 130)<br>375 (310 — 420)     | Stainless steel and S-materials |
| P8  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 110 (88 — 130)<br>360 (290 — 420)     |                                 |
| P11 | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 90 (70 — 110)<br>295 (230 — 360)      |                                 |
| P12 | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,034<br>0.0013 | 0,040<br>0.0016 | 0,050<br>0.0020 | 0,060<br>0.0024 | 60 (44 — 73)<br>195 (150 — 230)       |                                 |
| M1  | E/M/A                                                                             | 0,50<br>0.50 | 0,55<br>0.55 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,095<br>0.0038 | 105 (80 — 130)<br>345 (270 — 420)     | Non ferrous                     |
| M2  | E/M/A                                                                             | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 90 (66 — 100)<br>295 (220 — 320)      |                                 |
| M3  | E/M/A                                                                             | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 75 (55 — 98)<br>245 (190 — 320)       |                                 |
| M4  | E/M/A                                                                             | 0,50<br>0.50 | 0,55<br>0.55 | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 60 (43 — 75)<br>195 (150 — 240)       |                                 |
| M5  | E/M/A                                                                             | 0,50<br>0.50 | 0,55<br>0.55 | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 49 (36 — 63)<br>160 (120 — 200)       | Hard                            |
| K1  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 135 (120 — 150)<br>445 (400 — 490)    |                                 |
| K2  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,075<br>0.0030 | 120 (110 — 130)<br>395 (370 — 420)    |                                 |
| K3  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,075<br>0.0030 | 100 (86 — 110)<br>330 (290 — 360)     |                                 |
| K4  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 110 (88 — 130)<br>360 (290 — 420)     | Plastic and cf/p                |
| K5  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,075<br>0.0030 | 65 (54 — 79)<br>215 (180 — 250)       |                                 |
| K6  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 95 (78 — 110)<br>310 (260 — 360)      |                                 |
| K7  | E/M/A/D                                                                           | 0,50<br>0.50 | 0,55<br>0.55 | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,075<br>0.0030 | 85 (68 — 100)<br>280 (230 — 320)      |                                 |
| N1  | E/M/A                                                                             | 0,40<br>0.40 | 0,55<br>0.55 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 610 (510 — 700)<br>2000 (1700 — 2200) | Graphite                        |
| N2  | E/M/A                                                                             | 0,40<br>0.40 | 0,55<br>0.55 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 390 (330 — 450)<br>1275 (1100 — 1400) |                                 |
| N3  | E/M/A                                                                             | 0,40<br>0.40 | 0,55<br>0.55 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 260 (220 — 300)<br>850 (730 — 980)    |                                 |
| N11 | E/M/A                                                                             | 0,50<br>0.50 | 0,55<br>0.30 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,11<br>0.0044  | 0,13<br>0.0055  | 295 (250 — 340)<br>1000 (860 — 1100)  |                                 |
| S1  | E                                                                                 | 0,50<br>0.50 | 0,55<br>0.55 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 39 (31 — 46)<br>130 (110 — 150)       | X-Heads                         |
| S2  | E                                                                                 | 0,50<br>0.50 | 0,55<br>0.55 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,090<br>0.0036 | 31 (25 — 37)<br>100 (83 — 120)        |                                 |
| S3  | E                                                                                 | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 27 (22 — 32)<br>90 (73 — 100)         |                                 |
| S11 | E                                                                                 | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 115 (86 — 140)<br>375 (290 — 450)     |                                 |
| S12 | E                                                                                 | 0,50<br>0.50 | 0,55<br>0.55 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,085<br>0.0034 | 90 (66 — 100)<br>295 (220 — 320)      | Minimaster                      |
| S13 | E                                                                                 | 0,50<br>0.50 | 0,55<br>0.55 | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,065<br>0.0026 | 0,075<br>0.0030 | 70 (53 — 87)<br>230 (180 — 280)       |                                 |
| TS1 | A/D                                                                               | 0,40<br>0.40 | 0,55<br>0.55 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 250 (160 — 350)<br>820 (530 — 1100)   |                                 |
| TP1 | A/D                                                                               | 0,40<br>0.40 | 0,55<br>0.55 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 250 (160 — 350)<br>820 (530 — 1100)   |                                 |
| GR1 | A/D                                                                               | 0,40<br>0.40 | 0,55<br>0.55 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  | 0,14<br>0.0055  | 610 (510 — 700)<br>2000 (1700 — 2200) |                                 |

#### Cutting data – XVE540 – Slot milling PCEDC 4 inch

|                                 | SMG |  | $a_p/DC$     | $f_z$           |                 |                 |                 | $v_c$                                 |
|---------------------------------|-----|-----------------------------------------------------------------------------------|--------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
|                                 |     |                                                                                   |              | 3/8             | 1/2             | 5/8             | 3/4             |                                       |
| Universal                       | P1  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 170 (140 — 190)<br>560 (460 — 620)    |
|                                 | P2  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 165 (140 — 180)<br>540 (460 — 590)    |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 140 (120 — 160)<br>460 (400 — 520)    |
|                                 | P4  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 125 (100 — 140)<br>410 (330 — 450)    |
|                                 | P5  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 100 (80 — 110)<br>330 (270 — 360)     |
|                                 | P6  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 110 (89 — 130)<br>360 (300 — 420)     |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 105 (84 — 120)<br>345 (280 — 390)     |
|                                 | P8  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 100 (80 — 110)<br>330 (270 — 360)     |
|                                 | P11 | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 85 (63 — 100)<br>280 (210 — 320)      |
|                                 | P12 | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,040<br>0,0016 | 0,050<br>0,0020 | 0,060<br>0,0024 | 49 (37 — 61)<br>160 (130 — 200)       |
| Non ferrous                     | M1  | E/M/A                                                                             | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 100 (74 — 120)<br>330 (250 — 390)     |
|                                 | M2  | E/M/A                                                                             | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 80 (60 — 99)<br>260 (200 — 320)       |
|                                 | M3  | E/M/A                                                                             | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 70 (50 — 89)<br>230 (170 — 290)       |
|                                 | M4  | E/M/A                                                                             | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 50 (38 — 66)<br>165 (130 — 210)       |
| Hard                            | M5  | E/M/A                                                                             | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 43 (31 — 55)<br>140 (110 — 180)       |
|                                 | K1  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 125 (110 — 140)<br>410 (370 — 450)    |
|                                 | K2  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 105 (91 — 120)<br>345 (300 — 390)     |
|                                 | K3  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 90 (77 — 100)<br>295 (260 — 320)      |
| Plastic and cfrp                | K4  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 100 (80 — 110)<br>330 (270 — 360)     |
|                                 | K5  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 60 (48 — 70)<br>195 (160 — 220)       |
|                                 | K6  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 85 (70 — 100)<br>280 (230 — 320)      |
|                                 | K7  | E/M/A/D                                                                           | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 75 (61 — 90)<br>245 (210 — 290)       |
| Graphite                        | N1  | E/M/A                                                                             | 0,30<br>0,30 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 590 (500 — 690)<br>1925 (1700 — 2200) |
|                                 | N2  | E/M/A                                                                             | 0,30<br>0,30 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 380 (320 — 440)<br>1250 (1100 — 1400) |
|                                 | N3  | E/M/A                                                                             | 0,30<br>0,30 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 255 (220 — 290)<br>840 (730 — 950)    |
|                                 | N11 | E/M/A                                                                             | 0,30<br>0,30 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 295 (250 — 340)<br>970 (830 — 1100)   |
| X-Heads                         | S1  | E                                                                                 | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 36 (29 — 42)<br>120 (96 — 130)        |
|                                 | S2  | E                                                                                 | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 29 (23 — 34)<br>95 (76 — 110)         |
|                                 | S3  | E                                                                                 | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 25 (20 — 29)<br>80 (66 — 95)          |
|                                 | S11 | E                                                                                 | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 105 (78 — 120)<br>345 (260 — 390)     |
| Minimaster                      | S12 | E                                                                                 | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 80 (60 — 99)<br>260 (200 — 320)       |
|                                 | S13 | E                                                                                 | 0,55<br>0,55 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 60 (47 — 76)<br>195 (160 — 240)       |
|                                 | TS1 | A/D                                                                               | 0,30<br>0,30 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 250 (150 — 340)<br>820 (500 — 1100)   |
|                                 | TP1 | A/D                                                                               | 0,30<br>0,30 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 250 (150 — 340)<br>820 (500 — 1100)   |
|                                 | GR1 | A/D                                                                               | 0,30<br>0,30 | 0,034<br>0,0013 | 0,042<br>0,0017 | 0,055<br>0,0022 | 0,070<br>0,0028 | 590 (500 — 690)<br>1925 (1700 — 2200) |

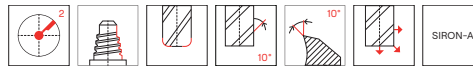
#### XVE510

General purpose – Universal – Square – 2 Flutes – Corner radius



D

—Tolerances:  
—DC= h10  
—RE=  $\pm 0,015$  mm



| Designation          | Item number | Length index | Tool shape | CZCMS | DC   | DCSFMS | APMXS | LF   | RE  | PCEDC | SW  | Grade |
|----------------------|-------------|--------------|------------|-------|------|--------|-------|------|-----|-------|-----|-------|
|                      |             |              |            |       | mm   | mm     | mm    | mm   | mm  |       |     | SIRA  |
| XVE510E10100D1R050Z2 | 10138003    | 1            | D          | E10   | 10,0 | 9,7    | 8,0   | 11,8 | 0,5 | 2     | 6,0 | ■     |
| XVE510E12120D1R050Z2 | 10138004    | 1            | D          | E12   | 12,0 | 11,7   | 10,0  | 14,0 | 0,5 | 2     | 8,0 | ■     |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – XVE510 Side milling

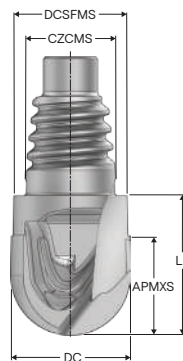
|                                 | SMG |  | $a_e/DC$     | $a_p/DC$     | $f_z$           |                 | $v_c$                                 |
|---------------------------------|-----|-----------------------------------------------------------------------------------|--------------|--------------|-----------------|-----------------|---------------------------------------|
|                                 |     |                                                                                   |              |              | 10              | 12              |                                       |
| Universal                       | P1  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 210 (170 — 250)<br>690 (560 — 820)    |
|                                 | P2  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 205 (170 — 240)<br>670 (560 — 780)    |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 175 (150 — 210)<br>570 (500 — 680)    |
|                                 | P4  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 155 (130 — 180)<br>510 (430 — 590)    |
|                                 | P5  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 155 (130 — 180)<br>510 (430 — 590)    |
|                                 | P6  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 175 (140 — 200)<br>570 (460 — 650)    |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 165 (140 — 190)<br>540 (460 — 620)    |
|                                 | P8  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 155 (130 — 180)<br>510 (430 — 590)    |
|                                 | P11 | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 115 (82 — 140)<br>375 (270 — 450)     |
|                                 | P12 | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,070<br>0.0028 | 0,080<br>0.0032 | 70 (50 — 89)<br>230 (170 — 290)       |
| Non ferrous                     | M1  | E/M/A                                                                             | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 135 (97 — 170)<br>445 (320 — 550)     |
|                                 | M2  | E/M/A                                                                             | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 110 (78 — 130)<br>360 (260 — 420)     |
|                                 | M3  | E/M/A                                                                             | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 70 (55 — 85)<br>230 (190 — 270)       |
|                                 | M4  | E/M/A                                                                             | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 50 (41 — 64)<br>165 (140 — 200)       |
|                                 | M5  | E/M/A                                                                             | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 44 (35 — 53)<br>145 (120 — 170)       |
| Hard                            | K1  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 185 (160 — 210)<br>610 (530 — 680)    |
|                                 | K2  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 160 (140 — 180)<br>520 (460 — 590)    |
| Plastic and cfrp                | K3  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 135 (120 — 150)<br>445 (400 — 490)    |
|                                 | K4  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 130 (110 — 150)<br>425 (370 — 490)    |
|                                 | K5  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 155 (130 — 180)<br>510 (430 — 590)    |
|                                 | K6  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 230 (190 — 270)<br>750 (630 — 880)    |
|                                 | K7  | E/M/A/D                                                                           | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 100 (83 — 110)<br>330 (280 — 360)     |
| Graphite                        | N1  | E/M/A                                                                             | 0,20<br>0.20 | 0,65<br>0.65 | 0,075<br>0.0030 | 0,090<br>0.0036 | 470 (410 — 530)<br>1550 (1400 — 1700) |
|                                 | N2  | E/M/A                                                                             | 0,20<br>0.20 | 0,65<br>0.65 | 0,075<br>0.0030 | 0,090<br>0.0036 | 305 (270 — 340)<br>1000 (890 — 1100)  |
|                                 | N3  | E/M/A                                                                             | 0,20<br>0.20 | 0,65<br>0.65 | 0,075<br>0.0030 | 0,090<br>0.0036 | 200 (180 — 230)<br>660 (600 — 750)    |
|                                 | N11 | E/M/A                                                                             | 0,10<br>0.10 | 0,65<br>0.65 | 0,10<br>0.0040  | 0,12<br>0.0048  | 370 (300 — 440)<br>1225 (990 — 1400)  |
| X-Heads                         | S1  | E                                                                                 | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 60 (39 — 85)<br>195 (130 — 270)       |
|                                 | S2  | E                                                                                 | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 55 (32 — 77)<br>180 (110 — 250)       |
|                                 | S3  | E                                                                                 | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 39 (24 — 54)<br>130 (79 — 170)        |
|                                 | S11 | E                                                                                 | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 120 (110 — 140)<br>395 (370 — 450)    |
| Minimaster                      | S12 | E                                                                                 | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 95 (78 — 100)<br>310 (260 — 320)      |
|                                 | S13 | E                                                                                 | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 70 (61 — 84)<br>230 (210 — 270)       |
|                                 | TS1 | A/D                                                                               | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 540 (470 — 620)<br>1775 (1600 — 2000) |
|                                 | TP1 | A/D                                                                               | 0,10<br>0.10 | 0,65<br>0.65 | 0,080<br>0.0032 | 0,095<br>0.0038 | 540 (470 — 620)<br>1775 (1600 — 2000) |
|                                 | GR1 | A/D                                                                               | 0,20<br>0.20 | 0,65<br>0.65 | 0,10<br>0.0040  | 0,12<br>0.0048  | 570 (510 — 630)<br>1875 (1700 — 2000) |

## Cutting data – XVE510 Slot milling

| SMG |  | $a_p/DC$     | $f_z$           |                 | $v_c$                                 |                                 |
|-----|-----------------------------------------------------------------------------------|--------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |              | 10              | 12              |                                       |                                 |
| P1  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 135 (110 — 160)<br>445 (370 — 520)    | Universal                       |
| P2  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 130 (110 — 150)<br>425 (370 — 490)    |                                 |
| P3  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 115 (91 — 130)<br>375 (300 — 420)     | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 100 (80 — 110)<br>330 (270 — 360)     |                                 |
| P5  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 100 (81 — 120)<br>330 (270 — 390)     | Stainless steel and S-materials |
| P6  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 110 (90 — 130)<br>360 (300 — 420)     |                                 |
| P7  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 105 (85 — 120)<br>345 (280 — 390)     | Non ferrous                     |
| P8  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 100 (81 — 120)<br>330 (270 — 390)     |                                 |
| P11 | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 75 (53 — 94)<br>245 (180 — 300)       | Hard                            |
| P12 | E/M/A/D                                                                           | 0,40<br>0,40 | 0,040<br>0,0016 | 0,048<br>0,0019 | 46 (33 — 58)<br>150 (110 — 190)       |                                 |
| M1  | E/M/A                                                                             | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 85 (62 — 110)<br>280 (210 — 360)      | Plastic and cfrp                |
| M2  | E/M/A                                                                             | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 70 (50 — 89)<br>230 (170 — 290)       |                                 |
| M3  | E/M/A                                                                             | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 45 (35 — 54)<br>150 (120 — 170)       | Graphite                        |
| M4  | E/M/A                                                                             | 0,38<br>0,38 | 0,050<br>0,0020 | 0,060<br>0,0024 | 34 (27 — 41)<br>110 (89 — 130)        |                                 |
| M5  | E/M/A                                                                             | 0,38<br>0,38 | 0,050<br>0,0020 | 0,060<br>0,0024 | 28 (23 — 34)<br>90 (76 — 110)         | X-Heads                         |
| K1  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 120 (100 — 130)<br>395 (330 — 420)    |                                 |
| K2  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 105 (87 — 120)<br>345 (290 — 390)     | Minimaster                      |
| K3  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 90 (74 — 100)<br>295 (250 — 320)      |                                 |
| K4  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 85 (70 — 97)<br>280 (230 — 310)       | X-Heads                         |
| K5  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 100 (80 — 120)<br>330 (270 — 390)     |                                 |
| K6  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 150 (120 — 170)<br>490 (400 — 550)    | Minimaster                      |
| K7  | E/M/A/D                                                                           | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 65 (54 — 74)<br>215 (180 — 240)       |                                 |
| N1  | E/M/A                                                                             | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 350 (300 — 390)<br>1150 (990 — 1200)  | X-Heads                         |
| N2  | E/M/A                                                                             | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 225 (200 — 250)<br>740 (660 — 820)    |                                 |
| N3  | E/M/A                                                                             | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 150 (130 — 170)<br>490 (430 — 550)    | Minimaster                      |
| N11 | E/M/A                                                                             | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 250 (200 — 290)<br>820 (660 — 950)    |                                 |
| S1  | E                                                                                 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 40 (25 — 54)<br>130 (83 — 170)        | X-Heads                         |
| S2  | E                                                                                 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 35 (20 — 49)<br>115 (66 — 160)        |                                 |
| S3  | E                                                                                 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 25 (15 — 34)<br>80 (50 — 110)         | Minimaster                      |
| S11 | E                                                                                 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 80 (65 — 90)<br>260 (220 — 290)       |                                 |
| S12 | E                                                                                 | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 60 (50 — 69)<br>195 (170 — 220)       | Minimaster                      |
| S13 | E                                                                                 | 0,42<br>0,42 | 0,050<br>0,0020 | 0,060<br>0,0024 | 47 (39 — 54)<br>155 (130 — 170)       |                                 |
| TS1 | A/D                                                                               | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 350 (300 — 390)<br>1150 (990 — 1200)  | Minimaster                      |
| TP1 | A/D                                                                               | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 350 (300 — 390)<br>1150 (990 — 1200)  |                                 |
| GR1 | A/D                                                                               | 0,50<br>0,50 | 0,050<br>0,0020 | 0,060<br>0,0024 | 450 (400 — 490)<br>1475 (1400 — 1600) |                                 |

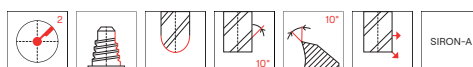
#### XVB510

General purpose – Universal – Ball nose – 2 Flutes



D

—Tolerances:  
—DC= h9  
—RE= ±0,01 mm

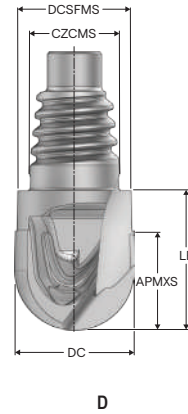


| Designation       | Item number | Length index | Tool shape | CZCMS | DC   | DCSFMS | APMXS | LF   | RE  | PCEDC | SW   | Grade |
|-------------------|-------------|--------------|------------|-------|------|--------|-------|------|-----|-------|------|-------|
|                   |             |              |            |       | mm   | mm     | mm    | mm   | mm  |       |      | SIRA  |
| XVB510E10100D1BZ2 | 10138005    | 1            | D          | E10   | 10,0 | 9,7    | 8,0   | 11,8 | 5,0 | 2     | 6,0  | ■     |
| XVB510E12120D1BZ2 | 10138006    | 1            | D          | E12   | 12,0 | 11,7   | 10,0  | 14,0 | 6,0 | 2     | 8,0  | ■     |
| XVB510E16160D1BZ2 | 10138007    | 1            | D          | E16   | 16,0 | 15,5   | 13,0  | 18,1 | 8,0 | 2     | 10,0 | ■     |

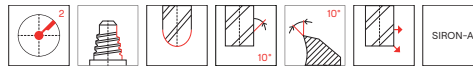
■ Stocked standard.

#### XVB510

General purpose – Universal – Ball nose – 2 Flutes – Inch



—Tolerances:  
—DC= h9  
—RE=  $\pm 0.004$  Inch



| Designation        | Item number | Length index | Tool shape | CZCMS | DC    | DCSFMS | APMXS | LF    | RE    | PCEDC | SW   | Grade |
|--------------------|-------------|--------------|------------|-------|-------|--------|-------|-------|-------|-------|------|-------|
|                    |             |              |            |       | Inch  | Inch   | Inch  | Inch  | Inch  |       |      | SIRA  |
| XVB510E10.375D1BZ2 | 10138008    | 1            | D          | E10   | 0.375 | 0.364  | 0.315 | 0.465 | 0.187 | 2     | 6,0  | ■     |
| XVB510E12.500D1BZ2 | 10138009    | 1            | D          | E12   | 0.500 | 0.484  | 0.413 | 0.551 | 0.250 | 2     | 8,0  | ■     |
| XVB510E16.625D1BZ2 | 10138010    | 1            | D          | E16   | 0.625 | 0.610  | 0.512 | 0.713 | 0.313 | 2     | 10,0 | ■     |

■ Stocked standard.

Universal

Steel and cast iron

Stainless steel and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster

## Cutting data – XVB510 Copy milling roughing

|                                 | SMG |  | $a_e/DC$       | $a_p/DC$     | $f_z$           |                 |                 | $v_c$                                 |
|---------------------------------|-----|-----------------------------------------------------------------------------------|----------------|--------------|-----------------|-----------------|-----------------|---------------------------------------|
|                                 |     |                                                                                   |                |              | 10              | 12              | 16              |                                       |
| Universal                       | P1  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 185 (150 — 210)<br>610 (500 — 680)    |
|                                 | P2  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 180 (150 — 210)<br>590 (500 — 680)    |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 155 (130 — 180)<br>510 (430 — 590)    |
|                                 | P4  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 135 (110 — 160)<br>445 (370 — 520)    |
|                                 | P5  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 135 (110 — 160)<br>445 (370 — 520)    |
|                                 | P6  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 150 (130 — 180)<br>490 (430 — 590)    |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 145 (120 — 170)<br>475 (400 — 550)    |
|                                 | P8  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 135 (110 — 160)<br>445 (370 — 520)    |
|                                 | P11 | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 65 (50 — 78)<br>215 (170 — 250)       |
|                                 | P12 | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 39 (30 — 47)<br>130 (99 — 150)        |
| Non ferrous                     | M1  | E/M/A                                                                             | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 75 (59 — 91)<br>245 (200 — 290)       |
|                                 | M2  | E/M/A                                                                             | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 60 (48 — 74)<br>195 (160 — 240)       |
|                                 | M3  | E/M/A                                                                             | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 60 (48 — 74)<br>195 (160 — 240)       |
|                                 | M4  | E/M/A                                                                             | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 46 (36 — 55)<br>150 (120 — 180)       |
| Hard                            | M5  | E/M/A                                                                             | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 38 (30 — 46)<br>125 (99 — 150)        |
|                                 | K1  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 180 (150 — 210)<br>590 (500 — 680)    |
|                                 | K2  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 155 (130 — 180)<br>510 (430 — 590)    |
|                                 | K3  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 130 (110 — 150)<br>425 (370 — 490)    |
| Plastic and cfrp                | K4  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 125 (110 — 150)<br>410 (370 — 490)    |
|                                 | K5  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 80 (63 — 94)<br>260 (210 — 300)       |
|                                 | K6  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 115 (93 — 130)<br>375 (310 — 420)     |
|                                 | K7  | E/M/A/D                                                                           | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 100 (81 — 120)<br>330 (270 — 390)     |
| Graphite                        | N1  | E/M/A                                                                             | 0,10<br>0.10   | 0,65<br>0.65 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 445 (390 — 500)<br>1450 (1300 — 1600) |
|                                 | N2  | E/M/A                                                                             | 0,10<br>0.10   | 0,65<br>0.65 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 285 (250 — 320)<br>940 (830 — 1000)   |
|                                 | N3  | E/M/A                                                                             | 0,10<br>0.10   | 0,65<br>0.65 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 190 (170 — 210)<br>620 (560 — 680)    |
|                                 | N11 | E/M/A                                                                             | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 335 (270 — 400)<br>1100 (890 — 1300)  |
| X-Heads                         | S1  | E                                                                                 | 0,050<br>0.050 | 0,65<br>0.65 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 55 (33 — 76)<br>180 (110 — 240)       |
|                                 | S2  | E                                                                                 | 0,050<br>0.050 | 0,65<br>0.65 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 44 (27 — 61)<br>145 (89 — 200)        |
|                                 | S3  | E                                                                                 | 0,050<br>0.050 | 0,65<br>0.65 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 38 (23 — 52)<br>125 (76 — 170)        |
|                                 | S11 | E                                                                                 | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 105 (88 — 120)<br>345 (290 — 390)     |
| Minimaster                      | S12 | E                                                                                 | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 80 (68 — 94)<br>260 (230 — 300)       |
|                                 | S13 | E                                                                                 | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 65 (53 — 73)<br>215 (180 — 230)       |
|                                 | TS1 | A/D                                                                               | 0,10<br>0.10   | 0,65<br>0.65 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 445 (390 — 500)<br>1450 (1300 — 1600) |
|                                 | TP1 | A/D                                                                               | 0,10<br>0.10   | 0,65<br>0.65 | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 445 (390 — 500)<br>1450 (1300 — 1600) |
|                                 | GR1 | A/D                                                                               | 0,10<br>0.10   | 0,65<br>0.65 | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 630 (570 — 700)<br>2075 (1900 — 2200) |

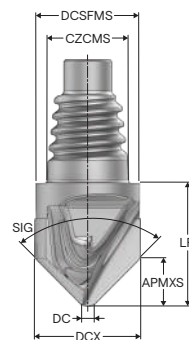


## Cutting data – XVB510 Copy milling roughing inch

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 | v <sub>c</sub>                        |  | Universal |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|-----------------|---------------------------------------|--|-----------|
|     |                                                                                   |                    |                    | 3/8             | 1/2             | 5/8             |                                       |  |           |
| P1  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 365 (320 — 420)<br>1200 (1100 — 1300) |  |           |
| P2  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 355 (310 — 400)<br>1175 (1100 — 1300) |  |           |
| P3  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 305 (270 — 350)<br>1000 (890 — 1100)  |  |           |
| P4  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 270 (230 — 310)<br>890 (760 — 1000)   |  |           |
| P5  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 175 (140 — 210)<br>570 (460 — 680)    |  |           |
| P6  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 195 (160 — 240)<br>640 (530 — 780)    |  |           |
| P7  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 185 (150 — 220)<br>610 (500 — 720)    |  |           |
| P8  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 175 (140 — 210)<br>570 (460 — 680)    |  |           |
| P11 | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 155 (130 — 180)<br>510 (430 — 590)    |  |           |
| P12 | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,060<br>0.0024 | 0,075<br>0.0030 | 0,090<br>0.0036 | 95 (78 — 110)<br>310 (260 — 360)      |  |           |
| M1  | E/M/A                                                                             | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 185 (160 — 210)<br>610 (530 — 680)    |  |           |
| M2  | E/M/A                                                                             | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 150 (130 — 170)<br>490 (430 — 550)    |  |           |
| M3  | E/M/A                                                                             | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 120 (95 — 140)<br>395 (320 — 450)     |  |           |
| M4  | E/M/A                                                                             | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 90 (71 — 110)<br>295 (240 — 360)      |  |           |
| M5  | E/M/A                                                                             | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 75 (59 — 92)<br>245 (200 — 300)       |  |           |
| K1  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 360 (310 — 410)<br>1175 (1100 — 1300) |  |           |
| K2  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 310 (270 — 350)<br>1025 (890 — 1100)  |  |           |
| K3  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 265 (230 — 300)<br>870 (760 — 980)    |  |           |
| K4  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 250 (220 — 280)<br>820 (730 — 910)    |  |           |
| K5  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 100 (79 — 120)<br>330 (260 — 390)     |  |           |
| K6  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 150 (120 — 180)<br>490 (400 — 590)    |  |           |
| K7  | E/M/A/D                                                                           | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 130 (110 — 160)<br>425 (370 — 520)    |  |           |
| N1  | E/M/A                                                                             | 0,10<br>0.10       | 0,65<br>0.65       | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 510 (390 — 630)<br>1675 (1300 — 2000) |  |           |
| N2  | E/M/A                                                                             | 0,10<br>0.10       | 0,65<br>0.65       | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 330 (250 — 400)<br>1075 (830 — 1300)  |  |           |
| N3  | E/M/A                                                                             | 0,10<br>0.10       | 0,65<br>0.65       | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 220 (170 — 270)<br>720 (560 — 880)    |  |           |
| N11 | E/M/A                                                                             | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 405 (270 — 530)<br>1325 (890 — 1700)  |  |           |
| S1  | E                                                                                 | 0,050<br>0.050     | 0,65<br>0.65       | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 110 (66 — 150)<br>360 (220 — 490)     |  |           |
| S2  | E                                                                                 | 0,050<br>0.050     | 0,65<br>0.65       | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 90 (53 — 120)<br>295 (180 — 390)      |  |           |
| S3  | E                                                                                 | 0,050<br>0.050     | 0,65<br>0.65       | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 75 (46 — 100)<br>245 (160 — 320)      |  |           |
| S11 | E                                                                                 | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 175 (130 — 220)<br>570 (430 — 720)    |  |           |
| S12 | E                                                                                 | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 135 (95 — 170)<br>445 (320 — 550)     |  |           |
| S13 | E                                                                                 | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 105 (74 — 130)<br>345 (250 — 420)     |  |           |
| TS1 | A/D                                                                               | 0,10<br>0.10       | 0,65<br>0.65       | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 320 (200 — 440)<br>1050 (660 — 1400)  |  |           |
| TP1 | A/D                                                                               | 0,10<br>0.10       | 0,65<br>0.65       | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  | 320 (200 — 440)<br>1050 (660 — 1400)  |  |           |
| GR1 | A/D                                                                               | 0,10<br>0.10       | 0,65<br>0.65       | 0,070<br>0.0028 | 0,085<br>0.0034 | 0,11<br>0.0044  | 850 (710 — 980)<br>2800 (2400 — 3200) |  |           |

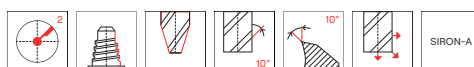
#### XVC506/509/512

General purpose – Universal – Chamfer – 2 Flutes



N

—Tolerances:  
—SIG=  $\pm 1^\circ$



| Designation       | Item number | Length index | Tool shape | CZCMS | DC  | DCSFMS | APMXS | LF   | PCEDC | SW   | Grade |
|-------------------|-------------|--------------|------------|-------|-----|--------|-------|------|-------|------|-------|
|                   |             |              |            |       | mm  | mm     | mm    | mm   |       |      | SIRA  |
| XVC506E10100N1SZ2 | 10138012    | 1            | N          | E10   | 1,5 | 9,7    | 7,23  | 11,8 | 2     | 6,0  | ■     |
| XVC509E10100N1SZ2 | 10138014    | 1            | N          | E10   | 1,5 | 9,7    | 4,23  | 11,8 | 2     | 6,0  | ■     |
| XVC506E12120N1SZ2 | 10138013    | 1            | N          | E12   | 1,5 | 11,7   | 7,73  | 14,0 | 2     | 8,0  | ■     |
| XVC509E12120N1SZ2 | 10138015    | 1            | N          | E12   | 1,5 | 11,7   | 5,23  | 14,0 | 2     | 8,0  | ■     |
| XVC512E12120N1SZ2 | 10138017    | 1            | N          | E12   | 1,5 | 11,7   | 3,03  | 14,0 | 2     | 8,0  | ■     |
| XVC509E16160N1SZ2 | 10138016    | 1            | N          | E16   | 1,5 | 15,5   | 7,23  | 18,1 | 2     | 10,0 | ■     |

■ Stocked standard.

## Cutting data – XVC506 Chamfering

| SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 | v <sub>c</sub>                        |                                 |
|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |                    |                    | 10              | 12              |                                       |                                 |
| P1  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,25<br>0.010   | 0,26<br>0.010   | 200 (180 — 220)<br>660 (600 — 720)    | Universal                       |
| P2  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,25<br>0.010   | 0,26<br>0.010   | 195 (180 — 220)<br>640 (600 — 720)    |                                 |
| P3  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,25<br>0.010   | 170 (150 — 190)<br>560 (500 — 620)    | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,25<br>0.010   | 150 (130 — 160)<br>490 (430 — 520)    |                                 |
| P5  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,25<br>0.010   | 150 (140 — 170)<br>490 (460 — 550)    |                                 |
| P6  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,24<br>0.0095  | 170 (150 — 190)<br>560 (500 — 620)    |                                 |
| P7  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,24<br>0.0095  | 160 (140 — 180)<br>520 (460 — 590)    | Stainless steel and S-materials |
| P8  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,26<br>0.010   | 150 (140 — 170)<br>490 (460 — 550)    |                                 |
| P11 | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,24<br>0.0095  | 105 (86 — 120)<br>345 (290 — 390)     |                                 |
| P12 | E/M/A/D                                                                           | 0,10<br>0.10       | 1,6<br>1.6         | 0,15<br>0.0060  | 0,16<br>0.0065  | 65 (52 — 76)<br>215 (180 — 240)       |                                 |
| M1  | E/M/A                                                                             | 0,10<br>0.10       | 2,0<br>2.0         | 0,26<br>0.010   | 0,28<br>0.011   | 125 (99 — 140)<br>410 (330 — 450)     | Non ferrous                     |
| M2  | E/M/A                                                                             | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,25<br>0.010   | 100 (80 — 120)<br>330 (270 — 390)     |                                 |
| M3  | E/M/A                                                                             | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,25<br>0.010   | 65 (45 — 84)<br>215 (150 — 270)       |                                 |
| M4  | E/M/A                                                                             | 0,10<br>0.10       | 1,5<br>1.5         | 0,19<br>0.0075  | 0,20<br>0.0080  | 47 (33 — 60)<br>155 (110 — 190)       |                                 |
| M5  | E/M/A                                                                             | 0,10<br>0.10       | 1,5<br>1.5         | 0,19<br>0.0075  | 0,20<br>0.0080  | 39 (27 — 50)<br>130 (89 — 160)        | Hard                            |
| K1  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,25<br>0.010   | 0,26<br>0.010   | 200 (180 — 220)<br>660 (600 — 720)    |                                 |
| K2  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 175 (160 — 190)<br>570 (530 — 620)    |                                 |
| K3  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 150 (130 — 160)<br>490 (430 — 520)    | Plastic and cf rp               |
| K4  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 140 (130 — 150)<br>460 (430 — 490)    |                                 |
| K5  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,20<br>0.0080  | 0,22<br>0.0085  | 85 (74 — 95)<br>280 (250 — 310)       |                                 |
| K6  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 125 (110 — 140)<br>410 (370 — 450)    |                                 |
| K7  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,20<br>0.0080  | 0,22<br>0.0085  | 110 (94 — 120)<br>360 (310 — 390)     | Graphite                        |
| N1  | E/M/A                                                                             | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,25<br>0.010   | 600 (500 — 690)<br>1975 (1700 — 2200) |                                 |
| N2  | E/M/A                                                                             | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,25<br>0.010   | 385 (330 — 440)<br>1275 (1100 — 1400) |                                 |
| N3  | E/M/A                                                                             | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,25<br>0.010   | 255 (220 — 290)<br>840 (730 — 950)    |                                 |
| N11 | E/M/A                                                                             | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,25<br>0.010   | 400 (350 — 450)<br>1300 (1200 — 1400) | X-Heads                         |
| S1  | E                                                                                 | 0,10<br>0.10       | 2,0<br>2.0         | 0,12<br>0.0048  | 0,13<br>0.0050  | 43 (15 — 71)<br>140 (50 — 230)        |                                 |
| S2  | E                                                                                 | 0,10<br>0.10       | 2,0<br>2.0         | 0,12<br>0.0048  | 0,13<br>0.0050  | 35 (12 — 57)<br>115 (40 — 180)        |                                 |
| S3  | E                                                                                 | 0,10<br>0.10       | 2,0<br>2.0         | 0,12<br>0.0048  | 0,12<br>0.0048  | 30 (10 — 49)<br>100 (33 — 160)        |                                 |
| S11 | E                                                                                 | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,25<br>0.010   | 95 (72 — 120)<br>310 (240 — 390)      | Minimaster                      |
| S12 | E                                                                                 | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,25<br>0.010   | 75 (55 — 94)<br>245 (190 — 300)       |                                 |
| S13 | E                                                                                 | 0,10<br>0.10       | 1,7<br>1.7         | 0,19<br>0.0075  | 0,20<br>0.0080  | 55 (43 — 72)<br>180 (150 — 230)       |                                 |
| H5  | M/A                                                                               | 0,050<br>0.050     | 2,0<br>2.0         | 0,11<br>0.0044  | 0,12<br>0.0048  | 120 (110 — 140)<br>395 (370 — 450)    |                                 |
| H8  | M/A                                                                               | 0,050<br>0.050     | 1,8<br>1.8         | 0,080<br>0.0032 | 0,085<br>0.0034 | 120 (99 — 130)<br>395 (330 — 420)     |                                 |
| H21 | M/A                                                                               | 0,050<br>0.050     | 1,8<br>1.8         | 0,080<br>0.0032 | 0,085<br>0.0034 | 120 (99 — 130)<br>395 (330 — 420)     |                                 |
| H31 | M/A                                                                               | 0,050<br>0.050     | 1,8<br>1.8         | 0,070<br>0.0028 | 0,075<br>0.0030 | 90 (75 — 100)<br>295 (250 — 320)      |                                 |
| TS1 | A/D                                                                               | 0,10<br>0.10       | 2,0<br>2.0         | 0,17<br>0.0065  | 0,18<br>0.0070  | 260 (160 — 360)<br>850 (530 — 1100)   |                                 |
| TP1 | A/D                                                                               | 0,10<br>0.10       | 2,0<br>2.0         | 0,17<br>0.0065  | 0,18<br>0.0070  | 260 (160 — 360)<br>850 (530 — 1100)   |                                 |

#### Cutting data – XVC509 Chamfering

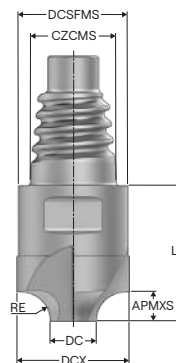
|                                 | SMG |  | a <sub>e</sub> /DC | a <sub>p</sub> /DC | f <sub>z</sub>  |                 |                 | v <sub>c</sub>                        |
|---------------------------------|-----|-----------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------------|-----------------|---------------------------------------|
|                                 |     |                                                                                   |                    |                    | 10              | 12              | 16              |                                       |
| Universal                       | P1  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,25<br>0.010   | 0,28<br>0.011   | 200 (180 — 220)<br>660 (600 — 720)    |
|                                 | P2  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,26<br>0.010   | 0,28<br>0.011   | 195 (180 — 220)<br>640 (600 — 720)    |
| Steel and cast iron             | P3  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,24<br>0.0095  | 0,26<br>0.010   | 170 (150 — 190)<br>560 (500 — 620)    |
|                                 | P4  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 150 (130 — 160)<br>490 (430 — 520)    |
|                                 | P5  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 150 (140 — 170)<br>490 (460 — 550)    |
|                                 | P6  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 170 (150 — 190)<br>560 (500 — 620)    |
| Stainless steel and S-materials | P7  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 160 (140 — 180)<br>520 (460 — 590)    |
|                                 | P8  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,25<br>0.010   | 0,28<br>0.011   | 150 (130 — 160)<br>490 (430 — 520)    |
|                                 | P11 | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 105 (85 — 120)<br>345 (280 — 390)     |
|                                 | P12 | E/M/A/D                                                                           | 0,10<br>0.10       | 1,6<br>1.6         | 0,14<br>0.0055  | 0,15<br>0.0060  | 0,17<br>0.0065  | 60 (50 — 74)<br>195 (170 — 240)       |
| Non ferrous                     | M1  | E/M/A                                                                             | 0,10<br>0.10       | 2,0<br>2.0         | 0,25<br>0.010   | 0,26<br>0.010   | 0,28<br>0.011   | 120 (98 — 140)<br>395 (330 — 450)     |
|                                 | M2  | E/M/A                                                                             | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 100 (80 — 120)<br>330 (270 — 390)     |
|                                 | M3  | E/M/A                                                                             | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 65 (45 — 84)<br>215 (150 — 270)       |
|                                 | M4  | E/M/A                                                                             | 0,10<br>0.10       | 1,5<br>1.5         | 0,18<br>0.0070  | 0,19<br>0.0075  | 0,20<br>0.0080  | 46 (33 — 60)<br>150 (110 — 190)       |
| Hard                            | M5  | E/M/A                                                                             | 0,10<br>0.10       | 1,5<br>1.5         | 0,18<br>0.0070  | 0,19<br>0.0075  | 0,20<br>0.0080  | 39 (27 — 50)<br>130 (89 — 160)        |
|                                 | K1  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,24<br>0.0095  | 0,26<br>0.010   | 0,28<br>0.011   | 200 (180 — 220)<br>660 (600 — 720)    |
|                                 | K2  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 175 (160 — 190)<br>570 (530 — 620)    |
| Plastic and cfrp                | K3  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 145 (130 — 160)<br>475 (430 — 520)    |
|                                 | K4  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 140 (130 — 150)<br>460 (430 — 490)    |
|                                 | K5  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,20<br>0.0080  | 0,22<br>0.0085  | 0,24<br>0.0095  | 85 (74 — 95)<br>280 (250 — 310)       |
|                                 | K6  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 125 (110 — 130)<br>410 (370 — 420)    |
|                                 | K7  | E/M/A/D                                                                           | 0,10<br>0.10       | 2,0<br>2.0         | 0,20<br>0.0080  | 0,22<br>0.0085  | 0,24<br>0.0095  | 110 (94 — 120)<br>360 (310 — 390)     |
|                                 | N1  | E/M/A                                                                             | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 600 (500 — 700)<br>1975 (1700 — 2200) |
| Graphite                        | N2  | E/M/A                                                                             | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 385 (330 — 450)<br>1275 (1100 — 1400) |
|                                 | N3  | E/M/A                                                                             | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 255 (220 — 300)<br>840 (730 — 980)    |
|                                 | N11 | E/M/A                                                                             | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 400 (350 — 450)<br>1300 (1200 — 1400) |
| X-Heads                         | S1  | E                                                                                 | 0,10<br>0.10       | 2,0<br>2.0         | 0,13<br>0.0050  | 0,13<br>0.0050  | 0,15<br>0.0060  | 43 (15 — 71)<br>140 (50 — 230)        |
|                                 | S2  | E                                                                                 | 0,10<br>0.10       | 2,0<br>2.0         | 0,13<br>0.0050  | 0,13<br>0.0050  | 0,15<br>0.0060  | 35 (12 — 57)<br>115 (40 — 180)        |
|                                 | S3  | E                                                                                 | 0,10<br>0.10       | 2,0<br>2.0         | 0,12<br>0.0048  | 0,12<br>0.0048  | 0,14<br>0.0055  | 30 (10 — 50)<br>100 (33 — 160)        |
|                                 | S11 | E                                                                                 | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 100 (72 — 120)<br>330 (240 — 390)     |
| Minimaster                      | S12 | E                                                                                 | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 75 (55 — 94)<br>245 (190 — 300)       |
|                                 | S13 | E                                                                                 | 0,10<br>0.10       | 1,7<br>1.7         | 0,19<br>0.0075  | 0,20<br>0.0080  | 0,22<br>0.0085  | 55 (42 — 72)<br>180 (140 — 230)       |
|                                 | H5  | M/A                                                                               | 0,10<br>0.10       | 2,0<br>2.0         | 0,12<br>0.0048  | 0,12<br>0.0048  | 0,14<br>0.0055  | 120 (110 — 140)<br>395 (370 — 450)    |
|                                 | H8  | M/A                                                                               | 0,10<br>0.10       | 1,8<br>1.8         | 0,085<br>0.0034 | 0,090<br>0.0036 | 0,10<br>0.0040  | 120 (99 — 130)<br>395 (330 — 420)     |
|                                 | H21 | M/A                                                                               | 0,10<br>0.10       | 1,8<br>1.8         | 0,085<br>0.0034 | 0,090<br>0.0036 | 0,10<br>0.0040  | 120 (99 — 130)<br>395 (330 — 420)     |
|                                 | H31 | M/A                                                                               | 0,10<br>0.10       | 1,8<br>1.8         | 0,075<br>0.0030 | 0,080<br>0.0032 | 0,085<br>0.0034 | 90 (75 — 100)<br>295 (250 — 320)      |
|                                 | TS1 | A/D                                                                               | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 250 (150 — 350)<br>820 (500 — 1100)   |
|                                 | TP1 | A/D                                                                               | 0,10<br>0.10       | 2,0<br>2.0         | 0,22<br>0.0085  | 0,24<br>0.0095  | 0,26<br>0.010   | 250 (150 — 350)<br>820 (500 — 1100)   |

#### Cutting data – XVC512 Chamfering

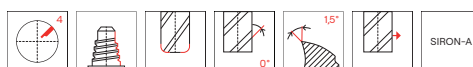
| SMG |  | $a_e/DC$     | $a_p/DC$   | $f_z$          | $v_c$                                 |                                 |
|-----|-----------------------------------------------------------------------------------|--------------|------------|----------------|---------------------------------------|---------------------------------|
|     |                                                                                   |              |            | 12             |                                       |                                 |
| P1  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,36<br>0.014  | 165 (150 — 180)<br>540 (500 — 590)    | Universal                       |
| P2  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,36<br>0.014  | 160 (140 — 170)<br>520 (460 — 550)    |                                 |
| P3  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,34<br>0.013  | 135 (120 — 150)<br>445 (400 — 490)    | Steel and cast iron             |
| P4  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,34<br>0.013  | 120 (110 — 130)<br>395 (370 — 420)    |                                 |
| P5  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,34<br>0.013  | 120 (110 — 130)<br>395 (370 — 420)    |                                 |
| P6  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,32<br>0.013  | 135 (120 — 150)<br>445 (400 — 490)    |                                 |
| P7  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,32<br>0.013  | 125 (120 — 140)<br>410 (400 — 450)    |                                 |
| P8  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,34<br>0.013  | 120 (110 — 130)<br>395 (370 — 420)    |                                 |
| P11 | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,32<br>0.013  | 85 (68 — 100)<br>280 (230 — 320)      | Stainless steel and S-materials |
| P12 | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,22<br>0.0085 | 50 (41 — 61)<br>165 (140 — 200)       |                                 |
| M1  | E/M/A                                                                             | 0,10<br>0.10 | 1,3<br>1.3 | 0,36<br>0.014  | 100 (80 — 110)<br>330 (270 — 360)     | Non ferrous                     |
| M2  | E/M/A                                                                             | 0,10<br>0.10 | 1,3<br>1.3 | 0,34<br>0.013  | 80 (65 — 96)<br>260 (220 — 310)       |                                 |
| M3  | E/M/A                                                                             | 0,10<br>0.10 | 1,3<br>1.3 | 0,34<br>0.013  | 50 (37 — 68)<br>165 (130 — 220)       |                                 |
| M4  | E/M/A                                                                             | 0,10<br>0.10 | 1,3<br>1.3 | 0,30<br>0.012  | 39 (28 — 51)<br>130 (92 — 160)        |                                 |
| M5  | E/M/A                                                                             | 0,10<br>0.10 | 1,3<br>1.3 | 0,30<br>0.012  | 33 (23 — 42)<br>110 (76 — 130)        |                                 |
| K1  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,36<br>0.014  | 160 (140 — 180)<br>520 (460 — 590)    | Hard                            |
| K2  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,32<br>0.013  | 140 (130 — 150)<br>460 (430 — 490)    |                                 |
| K3  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,32<br>0.013  | 115 (110 — 130)<br>375 (370 — 420)    | Plastic and cfrp                |
| K4  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,32<br>0.013  | 110 (98 — 120)<br>360 (330 — 390)     |                                 |
| K5  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,30<br>0.012  | 65 (58 — 75)<br>215 (200 — 240)       |                                 |
| K6  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,32<br>0.013  | 100 (86 — 110)<br>330 (290 — 360)     |                                 |
| K7  | E/M/A/D                                                                           | 0,10<br>0.10 | 1,3<br>1.3 | 0,30<br>0.012  | 85 (74 — 96)<br>280 (250 — 310)       |                                 |
| N1  | E/M/A                                                                             | 0,10<br>0.10 | 1,3<br>1.3 | 0,34<br>0.013  | 480 (410 — 560)<br>1575 (1400 — 1800) |                                 |
| N2  | E/M/A                                                                             | 0,10<br>0.10 | 1,3<br>1.3 | 0,34<br>0.013  | 310 (260 — 360)<br>1025 (860 — 1100)  |                                 |
| N3  | E/M/A                                                                             | 0,10<br>0.10 | 1,3<br>1.3 | 0,34<br>0.013  | 205 (180 — 240)<br>670 (600 — 780)    | Graphite                        |
| N11 | E/M/A                                                                             | 0,10<br>0.10 | 1,3<br>1.3 | 0,34<br>0.013  | 320 (290 — 360)<br>1050 (960 — 1100)  |                                 |
| S1  | E                                                                                 | 0,10<br>0.10 | 1,3<br>1.3 | 0,19<br>0.0075 | 35 (12 — 58)<br>115 (40 — 190)        | X-Heads                         |
| S2  | E                                                                                 | 0,10<br>0.10 | 1,3<br>1.3 | 0,19<br>0.0075 | 29 (9,6 — 47)<br>95 (32 — 150)        |                                 |
| S3  | E                                                                                 | 0,10<br>0.10 | 1,3<br>1.3 | 0,17<br>0.0065 | 25 (8,3 — 41)<br>80 (28 — 130)        |                                 |
| S11 | E                                                                                 | 0,10<br>0.10 | 1,3<br>1.3 | 0,34<br>0.013  | 80 (58 — 98)<br>260 (200 — 320)       |                                 |
| S12 | E                                                                                 | 0,10<br>0.10 | 1,3<br>1.3 | 0,34<br>0.013  | 60 (45 — 76)<br>195 (150 — 240)       |                                 |
| S13 | E                                                                                 | 0,10<br>0.10 | 1,3<br>1.3 | 0,30<br>0.012  | 47 (35 — 59)<br>155 (120 — 190)       |                                 |
| H5  | M/A                                                                               | 0,10<br>0.10 | 1,3<br>1.3 | 0,17<br>0.0065 | 100 (83 — 110)<br>330 (280 — 360)     | Minimaster                      |
| H8  | M/A                                                                               | 0,10<br>0.10 | 1,3<br>1.3 | 0,13<br>0.0050 | 100 (84 — 110)<br>330 (280 — 360)     |                                 |
| H21 | M/A                                                                               | 0,10<br>0.10 | 1,3<br>1.3 | 0,13<br>0.0050 | 100 (84 — 110)<br>330 (280 — 360)     |                                 |
| H31 | M/A                                                                               | 0,10<br>0.10 | 1,3<br>1.3 | 0,11<br>0.0044 | 75 (64 — 88)<br>245 (210 — 280)       |                                 |
| TS1 | A/D                                                                               | 0,10<br>0.10 | 1,3<br>1.3 | 0,34<br>0.013  | 200 (130 — 280)<br>660 (430 — 910)    |                                 |
| TP1 | A/D                                                                               | 0,10<br>0.10 | 1,3<br>1.3 | 0,34<br>0.013  | 200 (130 — 280)<br>660 (430 — 910)    |                                 |

#### XVK310

General purpose – Universal – Concave – 4 Flutes



—Tolerances:  
—RE= ≤5= ±0,05 mm  
—RE= >5= ±0,1 mm



| Designation          | Item number | Length index | Tool shape | CZCMS | DC  | DCSFMS | APMXS | LF   | RE  | PCEDC | SW   | Grade |
|----------------------|-------------|--------------|------------|-------|-----|--------|-------|------|-----|-------|------|-------|
|                      |             |              |            |       | mm  | mm     | mm    | mm   | mm  |       |      | SIRA  |
| XVK310E12120D1K400Z4 | 10137999    | 1            | D          | E12   | 4,0 | 11,7   | 4,0   | 14,5 | 4,0 | 4     | 10,0 | ■     |
| XVK310E12120D1K300Z4 | 10137998    | 1            | D          | E12   | 5,0 | 11,7   | 3,0   | 14,5 | 3,0 | 4     | 10,0 | ■     |
| XVK310E16160D1K500Z4 | 10138000    | 1            | D          | E16   | 6,0 | 15,5   | 5,0   | 18,7 | 5,0 | 4     | 12,0 | ■     |
| XVK310E20200D1K600Z4 | 10138001    | 1            | D          | E20   | 8,0 | 19,3   | 6,0   | 21,3 | 6,0 | 4     | 16,0 | ■     |

■ Stocked standard.

## Cutting data – XVK310 Side milling roughing

| SMG |         | a <sub>p</sub> /D_c | f <sub>z</sub> |        |        | v <sub>c</sub> |              |
|-----|---------|---------------------|----------------|--------|--------|----------------|--------------|
|     |         |                     | 12             | 16     | 20     |                |              |
| P1  | E/M/A/D | 0,24                | 0,048          | 0,065  | 0,080  | 290            | (195 — 310)  |
|     |         | 0,24                | 0,0019         | 0,0026 | 0,0032 | 950            | (640 — 1100) |
| P2  | E/M/A/D | 0,24                | 0,050          | 0,065  | 0,080  | 280            | (190 — 305)  |
|     |         | 0,24                | 0,0022         | 0,0026 | 0,0032 | 910            | (620 — 1000) |
| P3  | E/M/A/D | 0,24                | 0,046          | 0,060  | 0,075  | 240            | (165 — 260)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 790            | (540 — 850)  |
| P4  | E/M/A/D | 0,24                | 0,046          | 0,060  | 0,075  | 210            | (145 — 230)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 680            | (475 — 760)  |
| P5  | E/M/A/D | 0,24                | 0,046          | 0,060  | 0,075  | 205            | (135 — 220)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 670            | (445 — 730)  |
| P6  | E/M/A/D | 0,24                | 0,044          | 0,060  | 0,075  | 230            | (155 — 245)  |
|     |         | 0,24                | 0,0017         | 0,0024 | 0,003  | 760            | (510 — 800)  |
| P7  | E/M/A/D | 0,24                | 0,044          | 0,060  | 0,075  | 215            | (145 — 230)  |
|     |         | 0,24                | 0,0017         | 0,0024 | 0,003  | 710            | (475 — 760)  |
| P8  | E/M/A/D | 0,24                | 0,046          | 0,060  | 0,075  | 205            | (140 — 220)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 670            | (460 — 730)  |
| P11 | E/M/A/D | 0,24                | 0,044          | 0,060  | 0,075  | 210            | (140 — 225)  |
|     |         | 0,24                | 0,0017         | 0,0024 | 0,003  | 680            | (460 — 740)  |
| M1  | E/M/A   | 0,24                | 0,050          | 0,065  | 0,080  | 255            | (170 — 270)  |
|     |         | 0,24                | 0,0022         | 0,0026 | 0,0032 | 840            | (560 — 890)  |
| M2  | E/M/A   | 0,24                | 0,046          | 0,060  | 0,075  | 205            | (135 — 220)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 670            | (445 — 730)  |
| M3  | E/M/A   | 0,24                | 0,036          | 0,048  | 0,060  | 150            | (105 — 165)  |
|     |         | 0,24                | 0,0014         | 0,0019 | 0,0024 | 490            | (345 — 540)  |
| M4  | E/M/A   | 0,24                | 0,032          | 0,042  | 0,050  | 110            | (75 — 120)   |
|     |         | 0,24                | 0,0013         | 0,0017 | 0,0022 | 360            | (250 — 400)  |
| M5  | E/M/A   | 0,24                | 0,032          | 0,042  | 0,050  | 95             | (65 — 100)   |
|     |         | 0,24                | 0,0013         | 0,0017 | 0,0022 | 310            | (220 — 320)  |
| K1  | E/M/A/D | 0,24                | 0,046          | 0,060  | 0,075  | 205            | (135 — 220)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 670            | (445 — 730)  |
| K2  | E/M/A/D | 0,24                | 0,040          | 0,055  | 0,065  | 175            | (120 — 190)  |
|     |         | 0,24                | 0,0016         | 0,0022 | 0,0026 | 570            | (400 — 620)  |
| K3  | E/M/A/D | 0,24                | 0,040          | 0,055  | 0,065  | 150            | (100 — 160)  |
|     |         | 0,24                | 0,0016         | 0,0022 | 0,0026 | 490            | (320 — 530)  |
| K4  | E/M/A/D | 0,24                | 0,040          | 0,055  | 0,065  | 140            | (95 — 150)   |
|     |         | 0,24                | 0,0016         | 0,0022 | 0,0026 | 460            | (310 — 490)  |
| K5  | E/M/A/D | 0,24                | 0,036          | 0,050  | 0,060  | 85             | (55 — 90)    |
|     |         | 0,24                | 0,0014         | 0,0022 | 0,0024 | 280            | (180 — 300)  |
| K6  | E/M/A/D | 0,24                | 0,040          | 0,055  | 0,065  | 125            | (85 — 135)   |
|     |         | 0,24                | 0,0016         | 0,0022 | 0,0026 | 410            | (280 — 445)  |
| K7  | E/M/A/D | 0,24                | 0,036          | 0,050  | 0,060  | 105            | (70 — 115)   |
|     |         | 0,24                | 0,0014         | 0,0022 | 0,0024 | 345            | (220 — 375)  |
| N1  | E/M/A   | 0,24                | 0,046          | 0,060  | 0,075  | 315            | (215 — 340)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 1025           | (710 — 1125) |
| N2  | E/M/A   | 0,24                | 0,046          | 0,060  | 0,075  | 205            | (135 — 220)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 670            | (445 — 730)  |
| N3  | E/M/A   | 0,24                | 0,046          | 0,060  | 0,075  | 135            | (90 — 145)   |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 445            | (300 — 475)  |
| N11 | E/M/A   | 0,24                | 0,046          | 0,060  | 0,075  | 205            | (135 — 220)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 670            | (445 — 730)  |
| S1  | E       | 0,24                | 0,048          | 0,065  | 0,080  | 205            | (140 — 220)  |
|     |         | 0,24                | 0,0019         | 0,0026 | 0,0032 | 670            | (460 — 730)  |
| S2  | E       | 0,24                | 0,048          | 0,065  | 0,080  | 205            | (140 — 220)  |
|     |         | 0,24                | 0,0019         | 0,0026 | 0,0032 | 670            | (460 — 730)  |
| S3  | E       | 0,24                | 0,046          | 0,060  | 0,075  | 205            | (135 — 220)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 670            | (445 — 730)  |
| S11 | E       | 0,24                | 0,046          | 0,060  | 0,075  | 265            | (180 — 285)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 870            | (590 — 940)  |
| S12 | E       | 0,24                | 0,046          | 0,060  | 0,075  | 205            | (135 — 220)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 670            | (445 — 730)  |
| S13 | E       | 0,24                | 0,040          | 0,050  | 0,065  | 155            | (105 — 165)  |
|     |         | 0,24                | 0,0016         | 0,0022 | 0,0026 | 510            | (345 — 540)  |
| TS1 | A/D     | 0,24                | 0,046          | 0,060  | 0,075  | 205            | (135 — 220)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 670            | (445 — 730)  |
| TP1 | A/D     | 0,24                | 0,046          | 0,060  | 0,075  | 205            | (135 — 220)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 670            | (445 — 730)  |
| GR1 | A/D     | 0,24                | 0,046          | 0,060  | 0,075  | 205            | (135 — 220)  |
|     |         | 0,24                | 0,0018         | 0,0024 | 0,003  | 670            | (445 — 730)  |

Universal  
iron

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfnp

Graphite

X-Heads

Minimaster

# Recalculation

| Use original standard version side rough cutting data then recalculate parameters! |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       | Use original standard version slotting cutting data then recalculate parameters!    |       |                                                                                     |                              |                                         |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-------|-------|-----------------------------------------------------------------------------------|-------|-------|-------|-------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|------------------------------|-----------------------------------------|
| Straight                                                                           | Slotting                                                                          |       | Side rough                                                                        |       |       | Side finish                                                                       |       |       |       | Ramping                                                                             |       | Helical                                                                             |                              |                                         |
|                                                                                    |  |       |  |       |       |  |       |       |       |  |       |  |                              |                                         |
|                                                                                    | $a_p$                                                                             | $f_z$ | $a_e$                                                                             | $f_z$ | $a_p$ | $v_c$                                                                             | $a_e$ | $f_z$ | $a_p$ | $a_p$                                                                               | $f_z$ | $f_z$                                                                               | $a_p/360^\circ$<br>(% of DC) | hole $\varnothing$<br>( $\geq$ % of DC) |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       | $\leq 30^\circ$ *                                                                   |       |                                                                                     |                              |                                         |
| C5121                                                                              |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       |                                                                                     |       |                                                                                     |                              |                                         |
| LV1                                                                                | 100%                                                                              | 100%  | 100%                                                                              | 100%  | 100%  | 100%                                                                              | 100%  | 100%  | 100%  | 100%                                                                                | 100%  | 100%                                                                                | 100%                         | 170%                                    |
| LV2                                                                                | 70%                                                                               | 80%   | 100%                                                                              | 80%   | 100%  | 80%                                                                               | 100%  | 80%   | 100%  | 100%                                                                                | 100%  | 100%                                                                                | 100%                         | 170%                                    |
| LV3                                                                                | 60%                                                                               | 64%   | 100%                                                                              | 64%   | 100%  | 64%                                                                               | 100%  | 64%   | 100%  | 100%                                                                                | 85%   | 85%                                                                                 | 100%                         | 170%                                    |
| LV4                                                                                | x                                                                                 | x     | 100%                                                                              | 52%   | 100%  | 52%                                                                               | 100%  | 52%   | 100%  | 100%                                                                                | 75%   | 75%                                                                                 | 100%                         | 170%                                    |
| LV5                                                                                | x                                                                                 | x     | 100%                                                                              | 40%   | 100%  | 40%                                                                               | 100%  | 40%   | 100%  | 100%                                                                                | 65%   | 65%                                                                                 | 100%                         | 170%                                    |
| LV6                                                                                | x                                                                                 | x     | 100%                                                                              | 33%   | 100%  | 33%                                                                               | 100%  | 33%   | 100%  | 100%                                                                                | 55%   | 55%                                                                                 | 100%                         | 170%                                    |
| LV7                                                                                | x                                                                                 | x     | 100%                                                                              | 26%   | 100%  | 26%                                                                               | 100%  | 26%   | 100%  | 100%                                                                                | 45%   | 45%                                                                                 | 100%                         | 170%                                    |
| LV8                                                                                | x                                                                                 | x     | 100%                                                                              | 21%   | 100%  | 21%                                                                               | 100%  | 21%   | 100%  | 100%                                                                                | 35%   | 35%                                                                                 | 100%                         | 170%                                    |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       | $\leq 10^\circ$ *                                                                   |       |                                                                                     |                              |                                         |
| C5131                                                                              |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       |                                                                                     |       |                                                                                     |                              |                                         |
| LV1                                                                                | 100%                                                                              | 100%  | 100%                                                                              | 100%  | 100%  | 100%                                                                              | 100%  | 100%  | 100%  | 100%                                                                                | 100%  | 100%                                                                                | 100%                         | 170%                                    |
| LV2                                                                                | 70%                                                                               | 80%   | 100%                                                                              | 80%   | 100%  | 80%                                                                               | 100%  | 80%   | 100%  | 100%                                                                                | 100%  | 100%                                                                                | 100%                         | 170%                                    |
| LV3                                                                                | 60%                                                                               | 64%   | 100%                                                                              | 64%   | 100%  | 64%                                                                               | 100%  | 64%   | 100%  | 100%                                                                                | 85%   | 85%                                                                                 | 100%                         | 170%                                    |
| LV4                                                                                | x                                                                                 | x     | 100%                                                                              | 52%   | 100%  | 52%                                                                               | 100%  | 52%   | 100%  | 100%                                                                                | 75%   | 75%                                                                                 | 100%                         | 170%                                    |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       | $\leq 30^\circ$ *                                                                   |       |                                                                                     |                              |                                         |
| C5141                                                                              |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       |                                                                                     |       |                                                                                     |                              |                                         |
| LV1                                                                                | 100%                                                                              | 100%  | 100%                                                                              | 100%  | 100%  | 100%                                                                              | 100%  | 100%  | 100%  | 100%                                                                                | 100%  | 100%                                                                                | 100%                         | 170%                                    |
| LV2                                                                                | 70%                                                                               | 80%   | 100%                                                                              | 80%   | 100%  | 80%                                                                               | 100%  | 80%   | 100%  | 100%                                                                                | 100%  | 100%                                                                                | 100%                         | 170%                                    |
| LV3                                                                                | 60%                                                                               | 64%   | 100%                                                                              | 64%   | 100%  | 64%                                                                               | 100%  | 64%   | 100%  | 100%                                                                                | 85%   | 85%                                                                                 | 100%                         | 170%                                    |
| LV4                                                                                | x                                                                                 | x     | 100%                                                                              | 52%   | 100%  | 52%                                                                               | 100%  | 52%   | 100%  | 100%                                                                                | 75%   | 75%                                                                                 | 100%                         | 170%                                    |
| LV5                                                                                | x                                                                                 | x     | 100%                                                                              | 40%   | 100%  | 40%                                                                               | 100%  | 40%   | 100%  | 100%                                                                                | 65%   | 65%                                                                                 | 100%                         | 170%                                    |
| LV6                                                                                | x                                                                                 | x     | 100%                                                                              | 33%   | 100%  | 33%                                                                               | 100%  | 33%   | 100%  | 100%                                                                                | 55%   | 55%                                                                                 | 100%                         | 170%                                    |
| LV7                                                                                | x                                                                                 | x     | 100%                                                                              | 26%   | 100%  | 26%                                                                               | 100%  | 26%   | 100%  | 100%                                                                                | 45%   | 45%                                                                                 | 100%                         | 170%                                    |
| LV8                                                                                | x                                                                                 | x     | 100%                                                                              | 21%   | 100%  | 21%                                                                               | 100%  | 21%   | 100%  | 100%                                                                                | 35%   | 35%                                                                                 | 100%                         | 170%                                    |
| LV9                                                                                | x                                                                                 | x     | 100%                                                                              | 17%   | 100%  | 17%                                                                               | 100%  | 17%   | 100%  | 100%                                                                                | 25%   | 25%                                                                                 | 100%                         | 170%                                    |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       | $\leq 10^\circ$ *                                                                   |       |                                                                                     |                              |                                         |
| C5231                                                                              |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       |                                                                                     |       |                                                                                     |                              |                                         |
| LV2                                                                                | 100%                                                                              | 100%  | 100%                                                                              | 100%  | 100%  | 100%                                                                              | 80%   | 100%  | 80%   | 100%                                                                                | 100%  | 100%                                                                                | 100%                         | 100%                                    |
| LV3                                                                                | 70%                                                                               | 80%   | 100%                                                                              | 80%   | 100%  | 80%                                                                               | 64%   | 100%  | 64%   | 100%                                                                                | 100%  | 85%                                                                                 | 85%                          | 100%                                    |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       | $\leq 10^\circ$ *                                                                   |       |                                                                                     |                              |                                         |
| ST5541                                                                             |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       |                                                                                     |       |                                                                                     |                              |                                         |
| LV1                                                                                | 100%                                                                              | 100%  | 100%                                                                              | 100%  | 100%  | 100%                                                                              | 100%  | 100%  | 100%  | 100%                                                                                | 100%  | 100%                                                                                | 100%                         | 170%                                    |
| LV2                                                                                | 70%                                                                               | 90%   | 100%                                                                              | 85%   | 70%   | 90%                                                                               | 100%  | 85%   | 100%  | 100%                                                                                | 85%   | 85%                                                                                 | 100%                         | 170%                                    |
| LV3                                                                                | 50%                                                                               | 70%   | 100%                                                                              | 75%   | 50%   | 80%                                                                               | 100%  | 75%   | 100%  | 100%                                                                                | 75%   | 75%                                                                                 | 100%                         | 170%                                    |
| LV4                                                                                | x                                                                                 | x     | 100%                                                                              | 65%   | 40%   | 70%                                                                               | 100%  | 65%   | 100%  | 100%                                                                                | 65%   | 65%                                                                                 | 100%                         | 170%                                    |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       | $\leq 10^\circ$ *                                                                   |       |                                                                                     |                              |                                         |
| ST5551                                                                             |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       |                                                                                     |       |                                                                                     |                              |                                         |
| LV1                                                                                | 100%                                                                              | 100%  | 100%                                                                              | 100%  | 100%  | 100%                                                                              | 100%  | 100%  | 100%  | 100%                                                                                | 100%  | 100%                                                                                | 100%                         | 170%                                    |
| LV2                                                                                | 75%                                                                               | 80%   | 100%                                                                              | 85%   | 75%   | 90%                                                                               | 100%  | 85%   | 100%  | 100%                                                                                | 85%   | 85%                                                                                 | 100%                         | 170%                                    |
| LV3                                                                                | x                                                                                 | x     | 100%                                                                              | 70%   | 55%   | 85%                                                                               | 100%  | 70%   | 100%  | 100%                                                                                | 70%   | 70%                                                                                 | 100%                         | 170%                                    |
| LV4                                                                                | x                                                                                 | x     | 100%                                                                              | 55%   | 25%   | 75%                                                                               | 100%  | 55%   | 100%  | 100%                                                                                | 55%   | 55%                                                                                 | 100%                         | 170%                                    |
| LV5                                                                                | x                                                                                 | x     | 100%                                                                              | 40%   | 20%   | 70%                                                                               | 100%  | 40%   | 100%  | 100%                                                                                | 40%   | 40%                                                                                 | 100%                         | 170%                                    |
| LV6                                                                                | x                                                                                 | x     | 100%                                                                              | 30%   | 15%   | 65%                                                                               | 100%  | 35%   | 100%  | 100%                                                                                | 35%   | 35%                                                                                 | 100%                         | 170%                                    |
| LV8                                                                                | x                                                                                 | x     | 100%                                                                              | 15%   | 10%   | 60%                                                                               | 100%  | 25%   | 100%  | 100%                                                                                | 25%   | 25%                                                                                 | 100%                         | 170%                                    |

\*Max ramping angle

All values are percentages of original (100%) cutting data.



# Recalculation

| Use original standard version side rough cutting data then recalculate parameters! |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | Use original standard version slotting cutting data then recalculate parameters!   |       |                                                                                     |                           |                                      |                                                                                     |                 |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-------|-------|-----------------------------------------------------------------------------------|-----------------|-------|-------|------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|---------------------------|--------------------------------------|-------------------------------------------------------------------------------------|-----------------|
| Straight                                                                           | Slotting                                                                          |       | Side rough                                                                        |       |       | Side finish                                                                       |                 |       |       | Ramping                                                                            |       | Helical                                                                             |                           |                                      | Drilling                                                                            |                 |
|                                                                                    |  |       |  |       |       |  |                 |       |       |  |       |  |                           |                                      |  |                 |
|                                                                                    | $a_p$                                                                             | $f_z$ | $a_e$                                                                             | $f_z$ | $a_p$ | $v_c$                                                                             | $a_e$ (% of DC) | $f_z$ | $a_p$ | $a_p$                                                                              | $f_z$ | $f_z$                                                                               | $a_p/360^\circ$ (% of DC) | hole $\varnothing$ ( $\geq$ % of DC) | $f_z$                                                                               | $a_p$ (% of DC) |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 30^\circ$ *                                                                  |       |                                                                                     |                           |                                      |                                                                                     |                 |
| JS412                                                                              | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 140                                                                               | 3               | 40    | 120   | 80                                                                                 | 100   | 50                                                                                  | 10                        | 130                                  | 50                                                                                  | 100             |
| LV2                                                                                |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 10^\circ$ *                                                                  |       |                                                                                     |                           |                                      |                                                                                     |                 |
| JS413                                                                              | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 150                                                                               | 3               | 40    | 120   | 70                                                                                 | 50    | 50                                                                                  | 10                        | 130                                  | X                                                                                   | X               |
| LV3                                                                                | X                                                                                 | X     | 25                                                                                | 60    | 240   | 120                                                                               | 3               | 40    | 230   | 70                                                                                 | 50    | 50                                                                                  | 10                        | 130                                  | X                                                                                   | X               |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 30^\circ$ *                                                                  |       |                                                                                     |                           |                                      |                                                                                     |                 |
| JS452                                                                              | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 140                                                                               | 3               | 35    | 120   | 70                                                                                 | 100   | 50                                                                                  | 10                        | 130                                  | 50                                                                                  | 100             |
| LV3                                                                                | 50                                                                                | 60    | 75                                                                                | 60    | 50    | 120                                                                               | 3               | 40    | 100   | 70                                                                                 | 70    | 50                                                                                  | 10                        | 130                                  | 20                                                                                  | 10              |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 10^\circ$ *                                                                  |       |                                                                                     |                           |                                      |                                                                                     |                 |
| JS453                                                                              | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 140                                                                               | 3               | 35    | 120   | 70                                                                                 | 50    | 50                                                                                  | 10                        | 130                                  | 20                                                                                  | 10              |
| LV3                                                                                | X                                                                                 | X     | 25                                                                                | 60    | 240   | 120                                                                               | 3               | 40    | 230   | 70                                                                                 | 70    | 50                                                                                  | 10                        | 130                                  | 20                                                                                  | 10              |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 30^\circ$ *                                                                  |       |                                                                                     |                           |                                      |                                                                                     |                 |
| S4521                                                                              | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 140                                                                               | 3               | 35    | 120   | 70                                                                                 | 100   | 50                                                                                  | 10                        | 130                                  | 50                                                                                  | 100             |
| LV3                                                                                | 50                                                                                | 60    | 75                                                                                | 60    | 50    | 120                                                                               | 3               | 40    | 100   | 70                                                                                 | 70    | 50                                                                                  | 10                        | 130                                  | 20                                                                                  | 10              |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 30^\circ$ *                                                                  |       |                                                                                     |                           |                                      |                                                                                     |                 |
| S4531                                                                              | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 140                                                                               | 3               | 35    | 120   | 70                                                                                 | 100   | 50                                                                                  | 10                        | 130                                  | 50                                                                                  | 100             |
| LV3                                                                                | X                                                                                 | X     | 25                                                                                | 60    | 240   | 120                                                                               | 3               | 40    | 100   | 70                                                                                 | 70    | 50                                                                                  | 10                        | 130                                  | 20                                                                                  | 10              |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 30^\circ$ *                                                                  |       |                                                                                     |                           |                                      |                                                                                     |                 |
| S4651                                                                              | X                                                                                 | X     | 100                                                                               | 100   | 100   | 140                                                                               | 3               | 35    | 100   | X                                                                                  | X     | 100                                                                                 | 2                         | 130                                  | X                                                                                   | X               |
| LV4                                                                                | X                                                                                 | X     | 100                                                                               | 85    | 200   | 120                                                                               | 3               | 40    | 200   | X                                                                                  | X     | 60                                                                                  | 1,5                       | 130                                  | X                                                                                   | X               |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 30^\circ$ *                                                                  |       |                                                                                     |                           |                                      |                                                                                     |                 |
| JSE512                                                                             | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 110                                                                               | 3               | 65    | 125   | 40                                                                                 | 40    | 100                                                                                 | 5                         | 130                                  | 40                                                                                  | 40              |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 5^\circ$ *                                                                   |       |                                                                                     |                           |                                      |                                                                                     |                 |
| JSE513                                                                             | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 110                                                                               | 3               | 85    | 150   | 100                                                                                | 100   | 100                                                                                 | 5                         | 130                                  | 50                                                                                  | 40              |
| LV3                                                                                | 30                                                                                | 100   | 30                                                                                | 50    | 200   | 110                                                                               | 3               | 85    | 250   | X                                                                                  | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV4                                                                                | X                                                                                 | X     | X                                                                                 | X     | X     | 60                                                                                | 3               | 80    | 350   | X                                                                                  | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 5^\circ$ *                                                                   |       |                                                                                     |                           |                                      |                                                                                     |                 |
| JSE514                                                                             | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 110                                                                               | 3               | 60    | 150   | 100                                                                                | 100   | 100                                                                                 | 5                         | 130                                  | X                                                                                   | X               |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 110                                                                               | 3               | 60    | 150   | 100                                                                                | 100   | 100                                                                                 | 5                         | 130                                  | X                                                                                   | X               |
| LV3                                                                                | X                                                                                 | X     | 25                                                                                | 50    | 200   | 110                                                                               | 3               | 60    | 250   | X                                                                                  | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV4                                                                                | X                                                                                 | X     | X                                                                                 | X     | X     | 60                                                                                | 3               | 80    | 350   | X                                                                                  | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 45^\circ$ *                                                                  |       |                                                                                     |                           |                                      |                                                                                     |                 |
| JS553                                                                              | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 110                                                                               | 3               | 55    | 150   | 50                                                                                 | 55    | 35                                                                                  | 3                         | 130                                  | 35                                                                                  | 50              |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 110                                                                               | 3               | 55    | 150   | 50                                                                                 | 55    | 35                                                                                  | 3                         | 130                                  | 35                                                                                  | 50              |
| LV3                                                                                | 40                                                                                | 60    | 40                                                                                | 105   | 200   | 110                                                                               | 3               | 55    | 250   | 50                                                                                 | 15    | 35                                                                                  | 3                         | 130                                  | 35                                                                                  | 50              |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 5^\circ$ *                                                                   |       |                                                                                     |                           |                                      |                                                                                     |                 |
| JS554                                                                              | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 110                                                                               | 3               | 53    | 150   | 100                                                                                | 100   | 100                                                                                 | 3                         | 130                                  | X                                                                                   | X               |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 110                                                                               | 3               | 53    | 150   | 100                                                                                | 100   | 100                                                                                 | 3                         | 130                                  | X                                                                                   | X               |
| LV3                                                                                | 40                                                                                | 60    | 38                                                                                | 105   | 200   | 110                                                                               | 3               | 53    | 250   | 50                                                                                 | 50    | 60                                                                                  | 3                         | 130                                  | X                                                                                   | X               |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       |                                                                                    |       |                                                                                     |                           |                                      |                                                                                     |                 |
| JS564                                                                              | X                                                                                 | X     | 100                                                                               | 100   | 100   | 110                                                                               | 3               | 55    | 100   | X                                                                                  | X     | 100                                                                                 | 2                         | 130                                  | X                                                                                   | X               |
| LV3                                                                                | X                                                                                 | X     | 38                                                                                | 105   | 140   | 110                                                                               | 3               | 55    | 140   | X                                                                                  | X     | 60                                                                                  | 1,5                       | 130                                  | X                                                                                   | X               |
| LV4                                                                                | X                                                                                 | X     | 38                                                                                | 100   | 200   | 110                                                                               | 3               | 55    | 200   | X                                                                                  | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       |                                                                                    |       |                                                                                     |                           |                                      |                                                                                     |                 |
| JS565                                                                              | X                                                                                 | X     | 100                                                                               | 100   | 100   | 110                                                                               | 3               | 55    | 100   | X                                                                                  | X     | 100                                                                                 | 2                         | 130                                  | X                                                                                   | X               |
| LV3                                                                                | X                                                                                 | X     | 38                                                                                | 100   | 140   | 110                                                                               | 3               | 55    | 140   | X                                                                                  | X     | 60                                                                                  | 1,5                       | 130                                  | X                                                                                   | X               |
| LV4                                                                                | X                                                                                 | X     | 38                                                                                | 100   | 200   | 110                                                                               | 3               | 55    | 200   | X                                                                                  | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |

\*Max ramping angle

All values are percentages of original (100%) cutting data.

## Recalculation

| Use original standard version side rough cutting data then recalculate parameters! |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                          |                |                | Use original standard version slotting cutting data then recalculate parameters! |                |                |                                |                    |                |                          |  |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|----------------|----------------|----------------------------------------------------------------------------------|----------------|----------------|--------------------------------|--------------------|----------------|--------------------------|--|
| Straight                                                                           | Slotting                                                                          |                                                                                   | Side rough                                                                        |                                                                                    |                                                                                     | Side finish                                                                         |                          |                |                | Ramping                                                                          |                | Helical        |                                |                    | Drilling       |                          |  |
|                                                                                    |  |  |  |  |  |  |                          |                |                |                                                                                  |                |                |                                |                    |                |                          |  |
|                                                                                    | a <sub>p</sub>                                                                    | f <sub>z</sub>                                                                    | a <sub>e</sub>                                                                    | f <sub>z</sub>                                                                     | a <sub>p</sub>                                                                      | v <sub>c</sub>                                                                      | a <sub>e</sub> (% of DC) | f <sub>z</sub> | a <sub>p</sub> | a <sub>p</sub>                                                                   | f <sub>z</sub> | f <sub>z</sub> | a <sub>p</sub> /360° (% of DC) | hole Ø (≥ % of DC) | f <sub>z</sub> | a <sub>p</sub> (% of DC) |  |
|                                                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                          |                |                | ≤ 45° *                                                                          |                |                |                                |                    |                |                          |  |
| J28 LV2                                                                            | 100                                                                               | 100                                                                               | 100                                                                               | 100                                                                                | 100                                                                                 | 140                                                                                 | 3                        | 100            | 135            | 40                                                                               | 25             | 100            | 10                             | 130                | 25             | 60                       |  |
|                                                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                          |                |                | ≤ X° *                                                                           |                |                |                                |                    |                |                          |  |
| J36 LV2                                                                            | X                                                                                 | X                                                                                 | 100                                                                               | 100                                                                                | 100                                                                                 | 120                                                                                 | 3                        | 85             | 150            | X                                                                                | X              | X              | X                              | X                  | X              | X                        |  |
|                                                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                          |                |                | ≤ 20° *                                                                          |                |                |                                |                    |                |                          |  |
| J93F LV2                                                                           | 100                                                                               | 100                                                                               | 100                                                                               | 100                                                                                | 100                                                                                 | 133                                                                                 | 3                        | 40             | 100            | 100                                                                              | 100            | 100            | 3                              | 130                | 25             | 30                       |  |
|                                                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                          |                |                | ≤ 1°                                                                             |                |                |                                |                    |                |                          |  |
| JH120 LV2                                                                          | 100                                                                               | 100                                                                               | 100                                                                               | 100                                                                                | 100                                                                                 | 120                                                                                 | 3                        | 120            | 80             | 17                                                                               | 100            | 100            | 2                              | 130                | X              | X                        |  |
|                                                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                          |                |                | ≤ X° *                                                                           |                |                |                                |                    |                |                          |  |
| JH130 LV2                                                                          | X                                                                                 | X                                                                                 | 100                                                                               | 100                                                                                | 100                                                                                 | 120                                                                                 | 3                        | 120            | 80             | X                                                                                | X              | X              | X                              | X                  | X              | X                        |  |
|                                                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                          |                |                | ≤ X° *                                                                           |                |                |                                |                    |                |                          |  |
| JH142 LV2                                                                          | X                                                                                 | X                                                                                 | 100                                                                               | 100                                                                                | 100                                                                                 | 110                                                                                 | 3                        | 80             | 70             | X                                                                                | X              | 30             | 2                              | 130                | X              | X                        |  |
| JH142 LV3                                                                          | X                                                                                 | X                                                                                 | 100                                                                               | 100                                                                                | 100                                                                                 | 110                                                                                 | 3                        | 80             | 70             | X                                                                                | X              | 20             | 1                              | 130                | X              | X                        |  |
| JH142 LV6                                                                          | X                                                                                 | X                                                                                 | 100                                                                               | 100                                                                                | 100                                                                                 | 110                                                                                 | 3                        | 80             | 70             | X                                                                                | X              | 10             | 1                              | 130                | X              | X                        |  |
|                                                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                          |                |                | ≤ 45° *                                                                          |                |                |                                |                    |                |                          |  |
| JH830 LV2                                                                          | 100                                                                               | 100                                                                               | 100                                                                               | 100                                                                                | 100                                                                                 | 110                                                                                 | 3                        | 110            | 80             | 9                                                                                | 135            | 135            | 3                              | 130                | X              | X                        |  |
|                                                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                          |                |                | ≤ X° *                                                                           |                |                |                                |                    |                |                          |  |
| JH910 LV2                                                                          | 100                                                                               | 100                                                                               | 100                                                                               | 100                                                                                | 100                                                                                 | 125                                                                                 | 4                        | 100            | 80             | 15                                                                               | 140            | 140            | 3                              | 130                | X              | X                        |  |
| JH910 LV3                                                                          | 80                                                                                | 80                                                                                | 100                                                                               | 80                                                                                 | 80                                                                                  | 125                                                                                 | 4                        | 80             | 65             | 10                                                                               | 110            | 110            | 3                              | 130                | X              | X                        |  |
|                                                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                          |                |                | ≤ X° *                                                                           |                |                |                                |                    |                |                          |  |
| JH930 LV2                                                                          | X                                                                                 | X                                                                                 | 100                                                                               | 100                                                                                | 100                                                                                 | 125                                                                                 | 2                        | 30             | 100            | X                                                                                | X              | X              | X                              | X                  | X              | X                        |  |

\*Max ramping angle

All values are percentages of original (100%) cutting data.

## Recalculation

| Use original standard version side rough cutting data then recalculate parameters! |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | Use original standard version slotting cutting data then recalculate parameters!   |       |                                                                                     |                              |                                         |                                                                                     |                    |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-------|-------|-----------------------------------------------------------------------------------|--------------------|-------|-------|------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|------------------------------|-----------------------------------------|-------------------------------------------------------------------------------------|--------------------|
| Straight                                                                           | Slotting                                                                          |       | Side rough                                                                        |       |       | Side finish                                                                       |                    |       |       | Ramping                                                                            |       | Helical                                                                             |                              |                                         | Drilling                                                                            |                    |
|                                                                                    |  |       |  |       |       |  |                    |       |       |  |       |  |                              |                                         |  |                    |
|                                                                                    | $a_p$                                                                             | $f_z$ | $a_e$                                                                             | $f_z$ | $a_p$ | $v_c$                                                                             | $a_e$<br>(% of DC) | $f_z$ | $a_p$ | $a_p$                                                                              | $f_z$ | $f_z$                                                                               | $a_p/360^\circ$<br>(% of DC) | hole $\varnothing$<br>( $\geq$ % of DC) | $f_z$                                                                               | $a_p$<br>(% of DC) |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 5^\circ$ *                                                                   |       |                                                                                     |                              |                                         |                                                                                     |                    |
| JH40                                                                               | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 3                  | 35    | 100   | 83                                                                                 | 55    | 55                                                                                  | 25                           | 130                                     | 55                                                                                  | 80                 |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 3                  | 35    | 100   | 83                                                                                 | 55    | 55                                                                                  | 25                           | 130                                     | 55                                                                                  | 80                 |
| LV3                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 3                  | 35    | 100   | 83                                                                                 | 55    | 55                                                                                  | 25                           | 130                                     | 55                                                                                  | 80                 |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 45^\circ$ *                                                                  |       |                                                                                     |                              |                                         |                                                                                     |                    |
| JH410                                                                              | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 125                                                                               | 2                  | 25    | 100   | 100                                                                                | 67    | 67                                                                                  | 40                           | 130                                     | 67                                                                                  | 80                 |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 125                                                                               | 2                  | 25    | 100   | 60                                                                                 | 40    | 40                                                                                  | 40                           | 130                                     | 40                                                                                  | 50                 |
| LV2 (ML)                                                                           | 75                                                                                | 60    | 80                                                                                | 60    | 100   | 125                                                                               | 2                  | 25    | 100   | 100                                                                                | 50    | 100                                                                                 | 40                           | 130                                     | 150                                                                                 | 80                 |
| LV2 (TL)                                                                           | 125                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 100   | 100   | 100                                                                                | 50    | 100                                                                                 | 40                           | 130                                     | 150                                                                                 | 80                 |
| LV2 (RS)                                                                           | 125                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 100   | 100   | 100                                                                                | 50    | 100                                                                                 | 40                           | 130                                     | 150                                                                                 | 80                 |
| LV3 (RS)                                                                           | 95                                                                                | 95    | 80                                                                                | 100   | 100   | 100                                                                               | 2                  | 100   | 100   | 50                                                                                 | 50    | 50                                                                                  | 40                           | 130                                     | 75                                                                                  | 40                 |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 45^\circ$ *                                                                  |       |                                                                                     |                              |                                         |                                                                                     |                    |
| JH421                                                                              | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 4                  | 35    | 100   | 100                                                                                | 100   | 100                                                                                 | 25                           | 130                                     | 45                                                                                  | 80                 |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 4                  | 35    | 100   | 100                                                                                | 100   | 100                                                                                 | 25                           | 130                                     | 45                                                                                  | 80                 |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 30^\circ$ *                                                                  |       |                                                                                     |                              |                                         |                                                                                     |                    |
| JH440                                                                              | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 125                                                                               | 3                  | 40    | 100   | 100                                                                                | 100   | 100                                                                                 | 5                            | 130                                     | X                                                                                   | X                  |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 125                                                                               | 3                  | 40    | 100   | 100                                                                                | 100   | 100                                                                                 | 5                            | 130                                     | X                                                                                   | X                  |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 5^\circ$ *                                                                   |       |                                                                                     |                              |                                         |                                                                                     |                    |
| JHP750                                                                             | 115                                                                               | 120   | 115                                                                               | 115   | 100   | 100                                                                               | 2                  | 145   | 100   | 100                                                                                | 120   | 120                                                                                 | 3                            | 130                                     | 10                                                                                  | 70                 |
| LV1                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 145   | 100   | 100                                                                                | 100   | 100                                                                                 | 3                            | 130                                     | 10                                                                                  | 60                 |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 145   | 100   | 100                                                                                | 100   | 100                                                                                 | 3                            | 130                                     | 10                                                                                  | 60                 |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 5^\circ$ *                                                                   |       |                                                                                     |                              |                                         |                                                                                     |                    |
| JHP951                                                                             | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 158                                                                               | 2                  | 50    | 113   | 20                                                                                 | 100   | 125                                                                                 | 3                            | 130                                     | 6                                                                                   | 20                 |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 158                                                                               | 2                  | 50    | 113   | 20                                                                                 | 100   | 125                                                                                 | 3                            | 130                                     | 6                                                                                   | 20                 |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 10^\circ$ *                                                                  |       |                                                                                     |                              |                                         |                                                                                     |                    |
| JHP993                                                                             | 100                                                                               | 100   | 100                                                                               | 100   | 100   | X                                                                                 | X                  | X     | X     | 30                                                                                 | 100   | 100                                                                                 | 3                            | 130                                     | 4                                                                                   | 40                 |
| LV2                                                                                | 80                                                                                | 80    | 80                                                                                | 80    | 80    | X                                                                                 | X                  | X     | X     | 20                                                                                 | 80    | 80                                                                                  | 3                            | 130                                     | 3                                                                                   | 30                 |
| LV3                                                                                | 80                                                                                | 80    | 80                                                                                | 80    | 80    | X                                                                                 | X                  | X     | X     | 20                                                                                 | 80    | 80                                                                                  | 3                            | 130                                     | 3                                                                                   | 30                 |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq X^\circ$ *                                                                   |       |                                                                                     |                              |                                         |                                                                                     |                    |
| JS520                                                                              | X                                                                                 | X     | 100                                                                               | 100   | 100   | 133                                                                               | 2                  | 65    | 100   | X                                                                                  | X     | X                                                                                   | X                            | X                                       | X                                                                                   | X                  |
| LV2                                                                                | X                                                                                 | X     | X                                                                                 | X     | X     | 133                                                                               | 2                  | 65    | 175   | X                                                                                  | X     | X                                                                                   | X                            | X                                       | X                                                                                   | X                  |
| LV3                                                                                | X                                                                                 | X     | X                                                                                 | X     | X     | 133                                                                               | 2                  | 65    | 175   | X                                                                                  | X     | X                                                                                   | X                            | X                                       | X                                                                                   | X                  |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq X^\circ$ *                                                                   |       |                                                                                     |                              |                                         |                                                                                     |                    |
| JS522                                                                              | X                                                                                 | X     | 100                                                                               | 100   | 100   | 129                                                                               | 2                  | 140   | 100   | X                                                                                  | X     | X                                                                                   | X                            | X                                       | X                                                                                   | X                  |
| LV4                                                                                | X                                                                                 | X     | 100                                                                               | 100   | 100   | 129                                                                               | 2                  | 140   | 100   | X                                                                                  | X     | X                                                                                   | X                            | X                                       | X                                                                                   | X                  |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       |                                                                                    |       |                                                                                     |                              |                                         |                                                                                     |                    |
| JS720                                                                              | X                                                                                 | X     | 100                                                                               | 100   | 100   | 110                                                                               | 2                  | 65    | 100   | X                                                                                  | X     | 100                                                                                 | 2                            | 130                                     | X                                                                                   | X                  |
| LV2                                                                                | X                                                                                 | X     | 100                                                                               | 100   | 100   | 110                                                                               | 2                  | 65    | 100   | X                                                                                  | X     | 100                                                                                 | 2                            | 130                                     | X                                                                                   | X                  |
| LV3                                                                                | X                                                                                 | X     | 100                                                                               | 100   | 100   | 110                                                                               | 2                  | 65    | 100   | X                                                                                  | X     | 100                                                                                 | 2                            | 130                                     | X                                                                                   | X                  |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       |                                                                                    |       |                                                                                     |                              |                                         |                                                                                     |                    |
| JS754                                                                              | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 110                                                                               | 3                  | 55    | 150   | 100                                                                                | 100   | 100                                                                                 | 3                            | 130                                     | X                                                                                   | X                  |
| LV1                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 110                                                                               | 3                  | 55    | 150   | 100                                                                                | 100   | 100                                                                                 | 3                            | 130                                     | X                                                                                   | X                  |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 110                                                                               | 3                  | 55    | 150   | 100                                                                                | 100   | 100                                                                                 | 3                            | 130                                     | X                                                                                   | X                  |
| LV3                                                                                | 40                                                                                | 60    | 38                                                                                | 105   | 200   | 110                                                                               | 3                  | 55    | 250   | 50                                                                                 | 50    | 60                                                                                  | 3                            | 130                                     | X                                                                                   | X                  |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       |                                                                                    |       |                                                                                     |                              |                                         |                                                                                     |                    |
| JS755                                                                              | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 110                                                                               | 3                  | 55    | 150   | 100                                                                                | 100   | 100                                                                                 | 3                            | 130                                     | X                                                                                   | X                  |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 110                                                                               | 3                  | 55    | 150   | 100                                                                                | 100   | 100                                                                                 | 3                            | 130                                     | X                                                                                   | X                  |
| LV3                                                                                | 40                                                                                | 60    | 38                                                                                | 105   | 100   | 110                                                                               | 3                  | 55    | 250   | 50                                                                                 | 50    | 60                                                                                  | 3                            | 130                                     | X                                                                                   | X                  |

\*Max ramping angle

All values are percentages of original (100%) cutting data.

# Recalculation

| Use original standard version side rough cutting data then recalculate parameters! |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | Use original standard version side milling cutting data then recalculate parameters! |       |                                                                                     |                           |                                      |                                                                                     |                 |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-------|-------|-----------------------------------------------------------------------------------|-----------------|-------|-------|--------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|---------------------------|--------------------------------------|-------------------------------------------------------------------------------------|-----------------|
| Straight                                                                           | Slotting                                                                          |       | Side rough                                                                        |       |       | Side finish                                                                       |                 |       |       | Ramping                                                                              |       | Helical                                                                             |                           |                                      | Drilling                                                                            |                 |
|                                                                                    |  |       |  |       |       |  |                 |       |       |    |       |  |                           |                                      |  |                 |
|                                                                                    | $a_p$                                                                             | $f_z$ | $a_e$                                                                             | $f_z$ | $a_p$ | $v_c$                                                                             | $a_e$ (% of DC) | $f_z$ | $a_p$ | $a_p$                                                                                | $f_z$ | $f_z$                                                                               | $a_p/360^\circ$ (% of DC) | hole $\varnothing$ ( $\geq$ % of DC) | $f_z$                                                                               | $a_p$ (% of DC) |
| JME542-JME562-JME564                                                               |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq X^\circ$                                                                       |       |                                                                                     |                           |                                      |                                                                                     |                 |
| LV1                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 125                                                                               | 2               | 150   | 5     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV2                                                                                | 63                                                                                | 100   | 100                                                                               | 100   | 65    | 125                                                                               | 2               | 150   | 3     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV3                                                                                | 25                                                                                | 100   | 100                                                                               | 100   | 25    | 125                                                                               | 2               | 150   | 1     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV4 (TL)                                                                           | 18                                                                                | 100   | 100                                                                               | 100   | 20    | 125                                                                               | 2               | 150   | 1     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV4 (XL)                                                                           | 12                                                                                | 100   | 100                                                                               | 100   | 10    | 125                                                                               | 2               | 150   | 1     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV5                                                                                | 10                                                                                | 100   | 100                                                                               | 100   | 10    | 125                                                                               | 2               | 150   | 1     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV6                                                                                | 4                                                                                 | 100   | 100                                                                               | 100   | 5     | 125                                                                               | 2               | 150   | 1     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV7                                                                                | 2                                                                                 | 100   | 100                                                                               | 100   | 2     | 125                                                                               | 2               | 150   | 1     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| JME142-JME144                                                                      |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq X^\circ$                                                                       |       |                                                                                     |                           |                                      |                                                                                     |                 |
| LV1                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2               | 150   | 5     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV2                                                                                | 85                                                                                | 85    | 100                                                                               | 100   | 63    | 100                                                                               | 2               | 150   | 3     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV3                                                                                | 75                                                                                | 75    | 100                                                                               | 100   | 25    | 100                                                                               | 2               | 150   | 1     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV4                                                                                | 60                                                                                | 60    | 100                                                                               | 100   | 20    | 100                                                                               | 2               | 150   | 1     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV5                                                                                | 50                                                                                | 50    | 100                                                                               | 100   | 10    | 100                                                                               | 2               | 150   | 1     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV6                                                                                | 40                                                                                | 40    | 100                                                                               | 100   | 5     | 100                                                                               | 2               | 150   | 1     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| JM403-JM404-JM406                                                                  |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq X^\circ$                                                                       |       |                                                                                     |                           |                                      |                                                                                     |                 |
| LV1                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | X                                                                                 | X               | X     | X     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV2                                                                                | 100                                                                               | 75    | 100                                                                               | 75    | 100   | X                                                                                 | X               | X     | X     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV3 (L)                                                                            | 100                                                                               | 75    | 100                                                                               | 75    | 90    | X                                                                                 | X               | X     | X     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV3 (TL)                                                                           | 90                                                                                | 75    | 100                                                                               | 75    | 70    | X                                                                                 | X               | X     | X     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV4 (XL)                                                                           | 75                                                                                | 75    | 100                                                                               | 75    | 70    | X                                                                                 | X               | X     | X     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV4 (SL)                                                                           | 75                                                                                | 75    | 100                                                                               | 75    | 45    | X                                                                                 | X               | X     | X     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV5                                                                                | 50                                                                                | 50    | 100                                                                               | 50    | 30    | X                                                                                 | X               | X     | X     | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| JME642                                                                             |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 2$                                                                             |       |                                                                                     |                           |                                      |                                                                                     |                 |
| LV1                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2               | 85    | 200   | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV3                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2               | 85    | 200   | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV5                                                                                | 30                                                                                | 100   | 60                                                                                | 100   | 100   | 100                                                                               | 2               | 85    | 200   | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV6                                                                                | 30                                                                                | 100   | 60                                                                                | 100   | 100   | 100                                                                               | 2               | 85    | 200   | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| LV7                                                                                | 30                                                                                | 100   | 60                                                                                | 100   | 100   | 100                                                                               | 2               | 85    | 200   | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |
| JC898                                                                              |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 5^\circ$                                                                       |       |                                                                                     |                           |                                      |                                                                                     |                 |
| LV3                                                                                | X                                                                                 | X     | 100                                                                               | 100   | 100   | X                                                                                 | X               | X     | X     | X                                                                                    | 50    | 80                                                                                  | 3                         | 130-160                              | X                                                                                   | X               |
| JC899                                                                              |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 5^\circ$                                                                       |       |                                                                                     |                           |                                      |                                                                                     |                 |
| LV3                                                                                | X                                                                                 | X     | 100                                                                               | 100   | 100   | 100                                                                               | 3               | 50    | 100   | X                                                                                    | X     | X                                                                                   | X                         | X                                    | X                                                                                   | X               |

\*Max ramping angle

All values are percentages of original (100%) cutting data.

## Recalculation

| Use original standard version side rough cutting data then recalculate parameters! |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | Use original standard version slotting cutting data then recalculate parameters!   |       |                                                                                     |                              |                                         |                                                                                     |                    |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-------|-------|-----------------------------------------------------------------------------------|--------------------|-------|-------|------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|------------------------------|-----------------------------------------|-------------------------------------------------------------------------------------|--------------------|
| Straight                                                                           | Slotting                                                                          |       | Side rough                                                                        |       |       | Side finish                                                                       |                    |       |       | Ramping                                                                            |       | Helical                                                                             |                              |                                         | Drilling                                                                            |                    |
|                                                                                    |  |       |  |       |       |  |                    |       |       |  |       |  |                              |                                         |  |                    |
|                                                                                    | $a_p$                                                                             | $f_z$ | $a_e$                                                                             | $f_z$ | $a_p$ | $v_c$                                                                             | $a_e$<br>(% of DC) | $f_z$ | $a_p$ | $a_p$                                                                              | $f_z$ | $f_z$                                                                               | $a_p/360^\circ$<br>(% of DC) | hole $\varnothing$<br>( $\geq$ % of DC) | $f_z$                                                                               | $a_p$<br>(% of DC) |
| <b>JHP170</b>                                                                      |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 1^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 130                                                                               | 3                  | 175   | 80    | 100                                                                                | 100   | 100                                                                                 | 2                            | 130                                     | X                                                                                   | X                  |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 30^\circ$                                                                    |       |                                                                                     |                              |                                         |                                                                                     |                    |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 30^\circ$                                                                    |       |                                                                                     |                              |                                         |                                                                                     |                    |
| <b>HP4931</b>                                                                      |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 5^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | X                                                                                 | X                  | X     | X     | 50                                                                                 | 50    | 50                                                                                  | 5                            | 130                                     | 30                                                                                  | 50                 |
| LV3                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | X                                                                                 | X                  | X     | X     | 50                                                                                 | 50    | 50                                                                                  | 5                            | 130                                     | 30                                                                                  | 50                 |
| LV4                                                                                | 100                                                                               | 75    | 100                                                                               | 75    | 100   | X                                                                                 | X                  | X     | X     | 50                                                                                 | 50    | 50                                                                                  | 5                            | 130                                     | 30                                                                                  | 50                 |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 5^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| <b>S4931</b>                                                                       |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 5^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| LV3                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | X                                                                                 | X                  | X     | X     | 50                                                                                 | 50    | 50                                                                                  | 5                            | 130                                     | X                                                                                   | X                  |
| LV4                                                                                | 100                                                                               | 75    | 100                                                                               | 75    | 100   | X                                                                                 | X                  | X     | X     | 50                                                                                 | 50    | 50                                                                                  | 5                            | 130                                     | X                                                                                   | X                  |
| LV5                                                                                | 100                                                                               | 75    | 100                                                                               | 75    | 100   | X                                                                                 | X                  | X     | X     | 50                                                                                 | 50    | 50                                                                                  | 5                            | 130                                     | X                                                                                   | X                  |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 5^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| <b>JHP760</b>                                                                      |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 15^\circ$                                                                    |       |                                                                                     |                              |                                         |                                                                                     |                    |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 140                                                                               | 2                  | 125   | 15    | 30                                                                                 | 100   | 100                                                                                 | 3                            | 130                                     | 10                                                                                  | 50                 |
| LV3                                                                                | 50                                                                                | 50    | 100                                                                               | 50    | 50    | 140                                                                               | 2                  | 125   | 15    | 15                                                                                 | 50    | 50                                                                                  | 3                            | 130                                     | 5                                                                                   | 25                 |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 5^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| <b>JHP770</b>                                                                      |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 5^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 170                                                                               | 3                  | 125   | 100   | 100                                                                                | 40    | 40                                                                                  | 3                            | 130                                     | X                                                                                   | X                  |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 5^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| <b>JHP780</b>                                                                      |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 5^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| LV1                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 160                                                                               | 2                  | 135   | 140   | 100                                                                                | 100   | 35                                                                                  | 3                            | 130                                     | 35                                                                                  | 50                 |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 160                                                                               | 2                  | 135   | 140   | 100                                                                                | 100   | 35                                                                                  | 3                            | 130                                     | 35                                                                                  | 50                 |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 5^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| <b>JD620</b>                                                                       |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq X^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 110   | 4     | X                                                                                  | X     | X                                                                                   | X                            | X                                       | X                                                                                   | X                  |
| LV3                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 110   | 4     | X                                                                                  | X     | X                                                                                   | X                            | X                                       | X                                                                                   | X                  |
| LV4                                                                                | 20                                                                                | 100   | 60                                                                                | 100   | 60    | 100                                                                               | 2                  | 110   | 4     | X                                                                                  | X     | X                                                                                   | X                            | X                                       | X                                                                                   | X                  |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq X^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| <b>JD630</b>                                                                       |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq X^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 110   | 4     | X                                                                                  | X     | X                                                                                   | X                            | X                                       | X                                                                                   | X                  |
| LV3                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 110   | 4     | X                                                                                  | X     | X                                                                                   | X                            | X                                       | X                                                                                   | X                  |
| LV4                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 110   | 4     | X                                                                                  | X     | X                                                                                   | X                            | X                                       | X                                                                                   | X                  |
|                                                                                    |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq X^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| <b>JD640</b>                                                                       |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq X^\circ$                                                                     |       |                                                                                     |                              |                                         |                                                                                     |                    |
| LV2                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 110   | 4     | X                                                                                  | X     | X                                                                                   | X                            | X                                       | X                                                                                   | X                  |
| LV3                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 110   | 4     | X                                                                                  | X     | X                                                                                   | X                            | X                                       | X                                                                                   | X                  |
| LV4                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 110   | 4     | X                                                                                  | X     | X                                                                                   | X                            | X                                       | X                                                                                   | X                  |

\*Max ramping angle

All values are percentages of original (100%) cutting data.

## Recalculation

| Use original standard version side rough cutting data<br>then recalculate parameters! |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | Use original standard version slotting cutting data<br>then recalculate parameters! |       |                                                                                     |                           |                                      |                                                                                     |                 |       |                     |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-------|-------|-----------------------------------------------------------------------------------|-----------------|-------|-------|-------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|---------------------------|--------------------------------------|-------------------------------------------------------------------------------------|-----------------|-------|---------------------|
| Straight                                                                              | Slotting                                                                          |       | Side rough                                                                        |       |       | Side finish                                                                       |                 |       |       | Ramping                                                                             |       | Helical                                                                             |                           |                                      | Plunging                                                                            |                 |       |                     |
|                                                                                       |  |       |  |       |       |  |                 |       |       |    |       |  |                           |                                      |  |                 |       |                     |
|                                                                                       | $a_p$                                                                             | $f_z$ | $a_e$                                                                             | $f_z$ | $a_p$ | $v_c$                                                                             | $a_e$ (% of DC) | $f_z$ | $a_p$ | $a_p$                                                                               | $f_z$ | $f_z$                                                                               | $a_p/360^\circ$ (% of DC) | hole $\varnothing$ ( $\geq$ % of DC) | $v_c$                                                                               | $a_e$ (% of DC) | $f_z$ | $a_e$ -sd (% of DC) |
| <b>JHF181</b>                                                                         |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       |                                                                                     |       |                                                                                     |                           |                                      |                                                                                     |                 |       |                     |
| LV1                                                                                   | 100                                                                               | 100   | 100                                                                               | 100   | 100   | X                                                                                 | X               | X     | X     | X                                                                                   | X     | 100                                                                                 | 3,4                       | 130                                  | X                                                                                   | X               | X     | X                   |
| LV2                                                                                   | 80                                                                                | 85    | 100                                                                               | 85    | 80    | X                                                                                 | X               | X     | X     | X                                                                                   | X     | 85                                                                                  | 3,0                       | 130                                  | X                                                                                   | X               | X     | X                   |
| LV3                                                                                   | 60                                                                                | 70    | 100                                                                               | 70    | 60    | X                                                                                 | X               | X     | X     | X                                                                                   | X     | 70                                                                                  | 2,5                       | 130                                  | X                                                                                   | X               | X     | X                   |
| <b>JHF980</b>                                                                         |                                                                                   |       |                                                                                   |       |       |                                                                                   |                 |       |       | $\leq 1,5^\circ$ *                                                                  |       |                                                                                     |                           |                                      |                                                                                     |                 |       |                     |
| LV1                                                                                   | 100                                                                               | 100   | 100                                                                               | 100   | 100   | X                                                                                 | X               | X     | X     | 100                                                                                 | 100   | 100                                                                                 | 3                         | 130                                  | 70                                                                                  | 30              | 33    | 200                 |
| LV2                                                                                   | 100                                                                               | 100   | 100                                                                               | 100   | 100   | X                                                                                 | X               | X     | X     | 100                                                                                 | 100   | 100                                                                                 | 3                         | 130                                  | 70                                                                                  | 30              | 33    | 200                 |
| LV3                                                                                   | 80                                                                                | 85    | 80                                                                                | 85    | 80    | X                                                                                 | X               | X     | X     | 80                                                                                  | 85    | 85                                                                                  | 3                         | 130                                  | 70                                                                                  | 30              | 33    | 200                 |
| LV4                                                                                   | 50                                                                                | 70    | 50                                                                                | 70    | 60    | X                                                                                 | X               | X     | X     | 60                                                                                  | 70    | 70                                                                                  | 3                         | 130                                  | 70                                                                                  | 30              | 33    | 200                 |

\*Max ramping angle

All values are percentages of original (100%) cutting data.

## Recalculation

| Use original standard version cutting data then recalculate parameters! |                                                                                   |                |                                                                                   |                |                |                                                                                   |                             |                |                | Use original standard version slotting cutting data then recalculate parameters!   |                |                |                                                                                     |                             |                |                |                                                                                     |                                   |                       |
|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------|----------------|----------------|-----------------------------------------------------------------------------------|-----------------------------|----------------|----------------|------------------------------------------------------------------------------------|----------------|----------------|-------------------------------------------------------------------------------------|-----------------------------|----------------|----------------|-------------------------------------------------------------------------------------|-----------------------------------|-----------------------|
| BALL                                                                    | Slotting                                                                          |                | Side rough                                                                        |                |                | Side finish                                                                       |                             |                |                | Copy milling roughing                                                              |                |                | Copy milling finishing                                                              |                             |                |                | Helical                                                                             |                                   |                       |
|                                                                         |  |                |  |                |                |  |                             |                |                |  |                |                |  |                             |                |                |  |                                   |                       |
|                                                                         | a <sub>p</sub>                                                                    | f <sub>z</sub> | a <sub>e</sub>                                                                    | f <sub>z</sub> | a <sub>p</sub> | v <sub>c</sub>                                                                    | a <sub>e</sub><br>(% of DC) | f <sub>z</sub> | a <sub>p</sub> | a <sub>e</sub>                                                                     | f <sub>z</sub> | a <sub>p</sub> | v <sub>c</sub>                                                                      | a <sub>e</sub><br>(% of DC) | f <sub>z</sub> | a <sub>p</sub> | f <sub>z</sub>                                                                      | a <sub>p</sub> /360°<br>(% of DC) | hole Ø<br>(≥ % of DC) |
| JSB512                                                                  |                                                                                   |                |                                                                                   |                |                |                                                                                   |                             |                |                |                                                                                    |                |                |                                                                                     |                             |                |                |                                                                                     |                                   |                       |
| LV2                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 125                                                                               | 3                           | 125            | 10             | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 100                                                                                 | 5                                 | 130                   |
| JS532                                                                   |                                                                                   |                |                                                                                   |                |                |                                                                                   |                             |                |                |                                                                                    |                |                |                                                                                     |                             |                |                |                                                                                     |                                   |                       |
| LV1                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 125                                                                               | 3                           | 125            | 10             | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 75                                                                                  | 5                                 | 130                   |
| LV2                                                                     | X                                                                                 | X              | 70                                                                                | 100            | 70             | 125                                                                               | 3                           | 125            | 10             | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 75                                                                                  | 5                                 | 130                   |
| LV3                                                                     | X                                                                                 | X              | X                                                                                 | X              | X              | 125                                                                               | 3                           | 125            | 10             | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | X                                                                                   | X                                 | X                     |
| JS533                                                                   |                                                                                   |                |                                                                                   |                |                |                                                                                   |                             |                |                |                                                                                    |                |                |                                                                                     |                             |                |                |                                                                                     |                                   |                       |
| LV1                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 125                                                                               | 3                           | 125            | 15             | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 75                                                                                  | 5                                 | 130                   |
| LV2                                                                     | X                                                                                 | X              | 75                                                                                | 75             | 75             | 125                                                                               | 3                           | 125            | 15             | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 75                                                                                  | 5                                 | 130                   |
| JS534                                                                   |                                                                                   |                |                                                                                   |                |                |                                                                                   |                             |                |                |                                                                                    |                |                |                                                                                     |                             |                |                |                                                                                     |                                   |                       |
| LV1                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 125                                                                               | 3                           | 170            | 20             | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 100                                                                                 | 3                                 | 130                   |
| LV2                                                                     | X                                                                                 | X              | 70                                                                                | 100            | 70             | 125                                                                               | 3                           | 170            | 20             | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 100                                                                                 | 3                                 | 130                   |
| LV3                                                                     | X                                                                                 | X              | 70                                                                                | 100            | 70             | 125                                                                               | 3                           | 170            | 20             | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 100                                                                                 | 3                                 | 130                   |
| JHB970                                                                  |                                                                                   |                |                                                                                   |                |                |                                                                                   |                             |                |                |                                                                                    |                |                |                                                                                     |                             |                |                |                                                                                     |                                   |                       |
| LV1                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 155                                                                               | 2                           | 30             | 15             | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 40                                                                                  | 3                                 | 130                   |
| LV2                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 155                                                                               | 2                           | 30             | 15             | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 40                                                                                  | 3                                 | 130                   |
| LV3                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 155                                                                               | 2                           | 30             | 15             | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 40                                                                                  | 3                                 | 130                   |
| JHB720                                                                  |                                                                                   |                |                                                                                   |                |                |                                                                                   |                             |                |                |                                                                                    |                |                |                                                                                     |                             |                |                |                                                                                     |                                   |                       |
| LV2                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 125                                                                               | 2                           | 90             | 75             | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 40                                                                                  | 3                                 | 130                   |
| JH112                                                                   |                                                                                   |                |                                                                                   |                |                |                                                                                   |                             |                |                |                                                                                    |                |                |                                                                                     |                             |                |                |                                                                                     |                                   |                       |
| LV1                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 110                                                                               | 2                           | 70             | 100            | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 20                                                                                  | 2                                 | 130                   |
| LV2                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 110                                                                               | 2                           | 70             | 100            | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 20                                                                                  | 2                                 | 130                   |
| LV3                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 110                                                                               | 1,6                         | 55             | 100            | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | X                                                                                   | X                                 | X                     |
| LV4                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 130                                                                               | 1,4                         | 55             | 100            | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | X                                                                                   | X                                 | X                     |
| LV5                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 130                                                                               | 1,4                         | 50             | 100            | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | X                                                                                   | X                                 | X                     |
| LV6                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 130                                                                               | 1                           | 35             | 100            | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | X                                                                                   | X                                 | X                     |
| JH150                                                                   |                                                                                   |                |                                                                                   |                |                |                                                                                   |                             |                |                |                                                                                    |                |                |                                                                                     |                             |                |                |                                                                                     |                                   |                       |
| LV2                                                                     | X                                                                                 | X              | 100                                                                               | 100            | 100            | 165                                                                               | 1                           | 90             | 35             | X                                                                                  | X              | X              | X                                                                                   | X                           | X              | X              | 30                                                                                  | 2                                 | 130                   |

\*Max ramping angle

All values are percentages of original (100%) cutting data.

## Recalculation

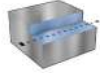
| Use original standard version side rough cutting data then recalculate parameters! |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       | Use original standard version slotting cutting data then recalculate parameters!    |       |                                                                                     |                              |                                         |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-------|-------|-----------------------------------------------------------------------------------|-------|-------|-------|-------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|------------------------------|-----------------------------------------|
| BALL                                                                               | Slotting                                                                          |       | Side rough                                                                        |       |       | Side finish                                                                       |       |       |       | Ramping                                                                             |       | Helical                                                                             |                              |                                         |
|                                                                                    |  |       |  |       |       |  |       |       |       |  |       |  |                              |                                         |
|                                                                                    | $a_p$                                                                             | $f_z$ | $a_e$                                                                             | $f_z$ | $a_p$ | $v_c$                                                                             | $a_e$ | $f_z$ | $a_p$ | $a_p$                                                                               | $f_z$ | $f_z$                                                                               | $a_p/360^\circ$<br>(% of DC) | hole $\varnothing$<br>( $\geq$ % of DC) |
| <b>C5321</b>                                                                       |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       |                                                                                     |       |                                                                                     |                              |                                         |
| LV1                                                                                | 100%                                                                              | 100%  | 100%                                                                              | 100%  | 100%  | 100%                                                                              | 100%  | 100%  | 100%  | 100%                                                                                | 100%  | 100%                                                                                | 100%                         | 170%                                    |
| LV2                                                                                | 100%                                                                              | 80%   | 100%                                                                              | 80%   | 100%  | 80%                                                                               | 100%  | 80%   | 100%  | 70%                                                                                 | 100%  | 85%                                                                                 | 90%                          | 170%                                    |
| LV3                                                                                | 100%                                                                              | 64%   | 100%                                                                              | 64%   | 100%  | 64%                                                                               | 100%  | 64%   | 100%  | 65%                                                                                 | 100%  | 85%                                                                                 | 75%                          | 160%                                    |
| LV4                                                                                | x                                                                                 | x     | 100%                                                                              | 52%   | 100%  | 52%                                                                               | 100%  | 52%   | 100%  | 65%                                                                                 | 65%   | 70%                                                                                 | 75%                          | 160%                                    |
| LV5                                                                                | x                                                                                 | x     | 100%                                                                              | 40%   | 100%  | 40%                                                                               | 100%  | 40%   | 100%  | x                                                                                   | x     | 65%                                                                                 | 75%                          | 160%                                    |
| LV6                                                                                | x                                                                                 | x     | 100%                                                                              | 33%   | 100%  | 33%                                                                               | 100%  | 33%   | 100%  | x                                                                                   | x     | 60%                                                                                 | 75%                          | 160%                                    |
| LV7                                                                                | x                                                                                 | x     | 100%                                                                              | 26%   | 100%  | 26%                                                                               | 100%  | 26%   | 100%  | x                                                                                   | x     | 55%                                                                                 | 75%                          | 160%                                    |
| <b>C5341</b>                                                                       |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       |                                                                                     |       |                                                                                     |                              |                                         |
| LV1                                                                                | 100%                                                                              | 100%  | 100%                                                                              | 100%  | 100%  | 100%                                                                              | 100%  | 100%  | 100%  | 100%                                                                                | 100%  | 100%                                                                                | 100%                         | 170%                                    |
| LV2                                                                                | 100%                                                                              | 80%   | 100%                                                                              | 80%   | 100%  | 80%                                                                               | 100%  | 80%   | 100%  | 70%                                                                                 | 100%  | 85%                                                                                 | 90%                          | 170%                                    |
| LV3                                                                                | 100%                                                                              | 64%   | 100%                                                                              | 64%   | 100%  | 64%                                                                               | 100%  | 64%   | 100%  | 65%                                                                                 | 100%  | 85%                                                                                 | 75%                          | 160%                                    |
| LV4                                                                                | x                                                                                 | x     | 100%                                                                              | 52%   | 100%  | 52%                                                                               | 100%  | 52%   | 100%  | 65%                                                                                 | 65%   | 70%                                                                                 | 75%                          | 160%                                    |
| LV5                                                                                | x                                                                                 | x     | 100%                                                                              | 40%   | 100%  | 40%                                                                               | 100%  | 40%   | 100%  | x                                                                                   | x     | 65%                                                                                 | 75%                          | 160%                                    |
| LV6                                                                                | x                                                                                 | x     | 100%                                                                              | 33%   | 100%  | 33%                                                                               | 100%  | 33%   | 100%  | x                                                                                   | x     | 60%                                                                                 | 75%                          | 160%                                    |
| LV7                                                                                | x                                                                                 | x     | 100%                                                                              | 26%   | 100%  | 26%                                                                               | 100%  | 26%   | 100%  | x                                                                                   | x     | 55%                                                                                 | 75%                          | 160%                                    |
| LV8                                                                                | x                                                                                 | x     | 100%                                                                              | 21%   | 100%  | 21%                                                                               | 100%  | 21%   | 100%  | x                                                                                   | x     | 50%                                                                                 | 75%                          | 160%                                    |
| <b>ST5341</b>                                                                      |                                                                                   |       |                                                                                   |       |       |                                                                                   |       |       |       |                                                                                     |       |                                                                                     |                              |                                         |
| LV2                                                                                | x                                                                                 | x     | 100%                                                                              | 100%  | 100%  | 100%                                                                              | 100%  | 100%  | 100%  | x                                                                                   | x     | x                                                                                   | x                            | x                                       |
| LV3                                                                                | x                                                                                 | x     | 100%                                                                              | 85%   | 100%  | 85%                                                                               | 100%  | 85%   | 100%  | x                                                                                   | x     | x                                                                                   | x                            | x                                       |

\*Max ramping angle

All values are percentages of original (100%) cutting data.



## Recalculation

| Use original standard version side rough cutting data then recalculate parameters! |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | Use original standard version slotting cutting data then recalculate parameters!   |       |       |                                                                                     |                    |       |       |                                                                                     |                              |                                         |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-------|-------|-----------------------------------------------------------------------------------|--------------------|-------|-------|------------------------------------------------------------------------------------|-------|-------|-------------------------------------------------------------------------------------|--------------------|-------|-------|-------------------------------------------------------------------------------------|------------------------------|-----------------------------------------|
| BALL                                                                               | Slotting                                                                          |       | Side rough                                                                        |       |       | Side finish                                                                       |                    |       |       | Copy milling roughing                                                              |       |       | Copy milling finishing                                                              |                    |       |       | Helical                                                                             |                              |                                         |
|                                                                                    |  |       |  |       |       |  |                    |       |       |  |       |       |  |                    |       |       |  |                              |                                         |
|                                                                                    | $a_p$                                                                             | $f_z$ | $a_e$                                                                             | $f_z$ | $a_p$ | $v_c$                                                                             | $a_e$<br>(% of DC) | $f_z$ | $a_p$ | $a_e$                                                                              | $f_z$ | $a_p$ | $v_c$                                                                               | $a_e$<br>(% of DC) | $f_z$ | $a_p$ | $f_z$                                                                               | $a_p/360^\circ$<br>(% of DC) | hole $\varnothing$<br>( $\geq$ % of DC) |
| JH160<br>Standard (2)                                                              | X                                                                                 | X     | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| JH450<br>Standard (2)                                                              | X                                                                                 | X     | 100                                                                               | 100   | 100   | 120                                                                               | 5                  | 90    | 25    | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | 45                                                                                  | 5                            | 130                                     |
| JH460<br>Standard (2)                                                              | X                                                                                 | X     | 100                                                                               | 100   | 100   | 120                                                                               | 5                  | 90    | 25    | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| JMB542-JMB562-<br>JMB563                                                           |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       |                                                                                    |       |       |                                                                                     |                    |       |       |                                                                                     |                              |                                         |
| LV1                                                                                | 100                                                                               | 100   | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | 100                                                                                | 100   | 100   | 125                                                                                 | 2                  | 150   | 5     | X                                                                                   | X                            | X                                       |
| LV2                                                                                | 65                                                                                | 100   | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | 100                                                                                | 100   | 63    | 125                                                                                 | 2                  | 150   | 3     | X                                                                                   | X                            | X                                       |
| LV3                                                                                | 26                                                                                | 100   | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | 100                                                                                | 100   | 25    | 125                                                                                 | 2                  | 150   | 1     | X                                                                                   | X                            | X                                       |
| LV4 (TL)                                                                           | 20                                                                                | 100   | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | 100                                                                                | 100   | 19    | 125                                                                                 | 2                  | 150   | 1     | X                                                                                   | X                            | X                                       |
| LV4 (XL)                                                                           | 12                                                                                | 100   | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | 100                                                                                | 100   | 12    | 125                                                                                 | 2                  | 150   | 1     | X                                                                                   | X                            | X                                       |
| LV5                                                                                | 10                                                                                | 100   | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | 100                                                                                | 100   | 10    | 125                                                                                 | 2                  | 150   | 1     | X                                                                                   | X                            | X                                       |
| LV6                                                                                | 4                                                                                 | 100   | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | 100                                                                                | 100   | 4     | 125                                                                                 | 2                  | 150   | 1     | X                                                                                   | X                            | X                                       |
| LV7                                                                                | 2                                                                                 | 100   | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | 100                                                                                | 100   | 2     | 125                                                                                 | 2                  | 150   | 1     | X                                                                                   | X                            | X                                       |
| JMB112                                                                             |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       |                                                                                    |       |       |                                                                                     |                    |       |       |                                                                                     |                              |                                         |
| LV1                                                                                | 100                                                                               | 100   | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | 100                                                                                | 100   | 100   | 118                                                                                 | 2                  | 120   | 5     | X                                                                                   | X                            | X                                       |
| LV2                                                                                | 65                                                                                | 100   | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | 64                                                                                 | 85    | 85    | 118                                                                                 | 2                  | 120   | 3     | X                                                                                   | X                            | X                                       |
| LV3                                                                                | 26                                                                                | 100   | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | 56                                                                                 | 75    | 75    | 118                                                                                 | 2                  | 120   | 1     | X                                                                                   | X                            | X                                       |
| LV4                                                                                | 20                                                                                | 100   | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | 45                                                                                 | 60    | 60    | 118                                                                                 | 2                  | 120   | 1     | X                                                                                   | X                            | X                                       |
| LV5                                                                                | 10                                                                                | 100   | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | 38                                                                                 | 50    | 50    | 118                                                                                 | 2                  | 120   | 1     | X                                                                                   | X                            | X                                       |
| LV6                                                                                | 4                                                                                 | 100   | X                                                                                 | X     | X     | X                                                                                 | X                  | X     | X     | 30                                                                                 | 40    | 40    | 118                                                                                 | 2                  | 120   | 1     | X                                                                                   | X                            | X                                       |
| JM413-JM416                                                                        |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       |                                                                                    |       |       |                                                                                     |                    |       |       |                                                                                     |                              |                                         |
| LV1                                                                                | X                                                                                 | X     | 100                                                                               | 100   | 100   | 100                                                                               | 5                  | 40    | 35    | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| LV2                                                                                | X                                                                                 | X     | 100                                                                               | 60    | 100   | 100                                                                               | 5                  | 40    | 15    | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| LV3                                                                                | X                                                                                 | X     | 100                                                                               | 80    | 100   | 100                                                                               | 5                  | 40    | 15    | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| LV4                                                                                | X                                                                                 | X     | 100                                                                               | 60    | 75    | 100                                                                               | 5                  | 40    | 10    | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| JMB642                                                                             |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       |                                                                                    |       |       |                                                                                     |                    |       |       |                                                                                     |                              |                                         |
| LV1                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 85    | 200   | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| LV3                                                                                | 100                                                                               | 100   | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 85    | 200   | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| LV5                                                                                | 30                                                                                | 100   | 60                                                                                | 100   | 100   | 100                                                                               | 2                  | 85    | 200   | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| LV6                                                                                | 30                                                                                | 100   | 60                                                                                | 100   | 100   | 100                                                                               | 2                  | 85    | 200   | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| LV7                                                                                | 30                                                                                | 100   | 60                                                                                | 100   | 100   | 100                                                                               | 2                  | 85    | 200   | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| JD660                                                                              |                                                                                   |       |                                                                                   |       |       |                                                                                   |                    |       |       | $\leq 2$                                                                           |       |       |                                                                                     |                    |       |       |                                                                                     |                              |                                         |
| LV1                                                                                | X                                                                                 | X     | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 100   | 100   | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| LV2                                                                                | X                                                                                 | X     | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 100   | 100   | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| LV3                                                                                | X                                                                                 | X     | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 100   | 100   | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| LV4                                                                                | X                                                                                 | X     | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 100   | 100   | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |
| LV5                                                                                | X                                                                                 | X     | 100                                                                               | 100   | 100   | 100                                                                               | 2                  | 100   | 100   | X                                                                                  | X     | X     | X                                                                                   | X                  | X     | X     | X                                                                                   | X                            | X                                       |

\*Max ramping angle

All values are percentages of original (100%) cutting data.

## Nomenclature and formulae

|                                            |                        |
|--------------------------------------------|------------------------|
| <b>RPM</b>                                 |                        |
| $n = \frac{v_c \cdot 1000}{\pi \cdot D_c}$ | (rev/min)              |
| <b>Cutting speed</b>                       |                        |
| $v_c = \frac{n \cdot \pi \cdot D_c}{1000}$ | (m/min)                |
| <b>Feed speed</b>                          |                        |
| $v_f = n \cdot z_n \cdot f_z$              | (mm/min)               |
| <b>Feed per revolution</b>                 |                        |
| $f = z_n \cdot f_z$                        | (mm/rev)               |
| <b>Metal removal rate</b>                  |                        |
| $Q = \frac{a_e \cdot a_p \cdot v_f}{1000}$ | (cm <sup>3</sup> /min) |
| <b>Cutting speed and RPM for copying</b>   |                        |
| $v_c = \frac{n \cdot \pi \cdot D_w}{1000}$ | (m/min)                |
| $n = \frac{v_c \cdot 1000}{\pi \cdot D_w}$ | (RPM)                  |
| $D_w = 2 \cdot \sqrt{a_p (D_c - a_p)}$     | (mm)                   |

### Calculation of $a_p$ vs. overhang length:

If the overhang length (XS) is longer than 4 x DC and Cylindrical shanks are used it is important to adopt another depth of cut ( $a_p$ ) value than that indicated in the table.

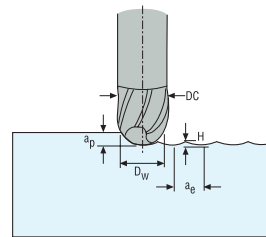
Use the following formula to calculate the new  $a_p$  value

$$a_{p\text{new}} = a_p \times (4 \times DC/XS)^2$$

### Profile height

$$H = \frac{D_c}{2} - \sqrt{\frac{D_c^2 - a_e^2}{2}}$$

$$D_w = 2 \cdot \sqrt{a_p (D_c - a_p)} \quad (\text{mm})$$



### Profile height H (um)

| DC | Pitch $a_e$ (μm) |      |      |      |      |      |      |
|----|------------------|------|------|------|------|------|------|
|    | 0,06             | 0,08 | 0,11 | 0,15 | 0,20 | 0,3  | 0,45 |
| 1  | 0,90             | 1,60 | 3,00 | 5,70 | 10,0 | 23,0 | 53,0 |
| 2  | 0,45             | 0,80 | 1,50 | 2,80 | 5,0  | 11,0 | 26,0 |
| 4  | 0,23             | 0,40 | 0,76 | 1,40 | 2,5  | 5,60 | 13,0 |
| 6  | 0,15             | 0,27 | 0,50 | 0,94 | 1,7  | 3,80 | 8,40 |
| 8  | 0,11             | 0,20 | 0,38 | 0,70 | 1,3  | 2,80 | 6,30 |
| 10 | 0,09             | 0,16 | 0,30 | 0,56 | 1,0  | 2,30 | 5,10 |
| 12 | 0,08             | 0,13 | 0,25 | 0,47 | 0,83 | 1,90 | 4,20 |

$a_p$  = Depth of cut mm/axial depth of cut (mm)  
 $a_e$  = Width of cut mm/radial depth of cut (mm)  
DC = Cutter diameter  
 $f$  = Feed per revolution (mm/rev)  
 $f_z$  = Feed per tooth (mm/tooth)  
 $z_n$  = No. of teeth  
 $n$  = RPM (rev/min)  
 $Q$  = Material removal rate (cm<sup>3</sup>/min)  
 $v_c$  = Cutting speed (m/min)  
 $v_f$  = Feed speed (mm/min)  
 $D_w$  = Working diameter

## Operation recommendations

### Helical interpolation ramping

The table below shows the diameter recommendations for Helical interpolation ramping

#### Recommended diameter of hole for helical interpolation ramping

| Diameter of end mill DC | Diameter of hole |
|-------------------------|------------------|
| 1-2,5                   | 1,4 x DC         |
| 3-6                     | 1,3 x DC         |
| 8-12                    | 1,2 x DC         |
| 16-32                   | 1,15 x DC        |

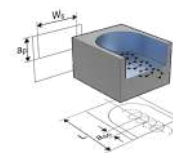


### Trochoidal method

The figure below shows a method often called the trochoidal method for milling slots

#### Recommendation of width of slot

| Diameter of end mill DC | Slot width |
|-------------------------|------------|
| 1-2,5                   | 1,8 x DC   |
| 3-6                     | 1,6 x DC   |
| 8-12                    | 1,4 x DC   |
| 16-32                   | 1,2 x DC   |





## MINIMASTER™

Minimaster™ is a unique, versatile end milling system that can combine different solutions for optimum accessibility and maximum stability and security.

The flexible two-piece design combines shanks and inserts to save time, money and create a versatile tool that enables users to find a solution for almost every application – whether they need to minimize the overhang, attain maximum stability, or more.

- Square Shoulder range: 6-20 mm (.25 - .75 inch)
- Ballnose range: 6-20 mm (.25 - .75 inch)
- Center Drilling/Chamfering range: 6-19,05mm (.25 - .750 inch)
- High Feed range: 8-12 mm (.375 - .625 inch)
- Plunging range: 6-16 mm (.25 - .625 inch)
- Concave Radius range: 12 mm (.472 inch)

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

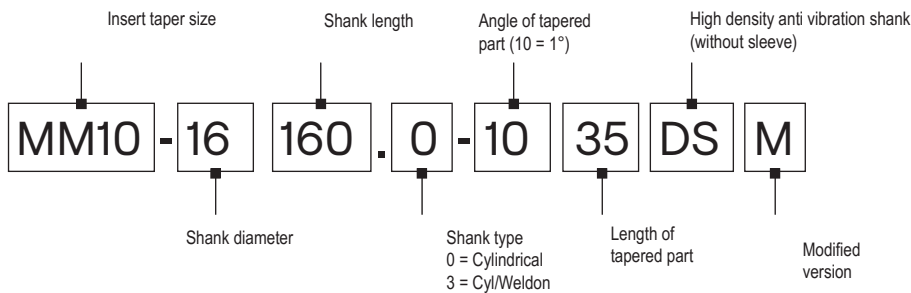
Graphite

X-Heads

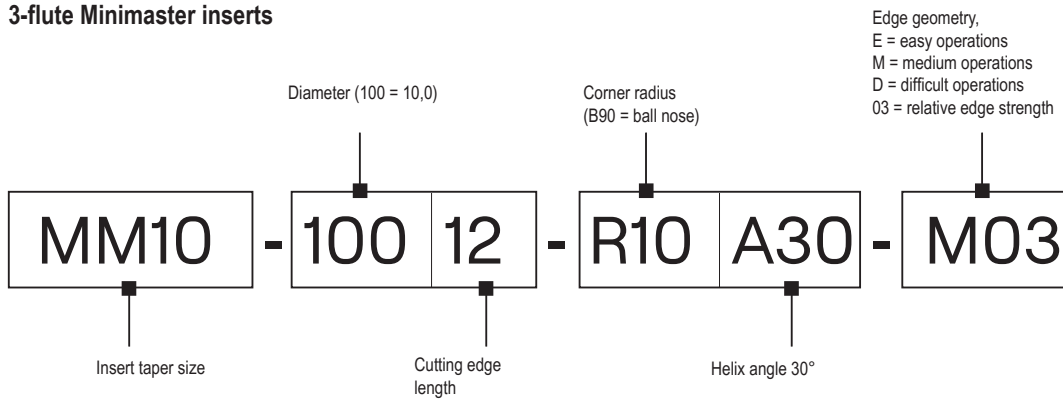
Minimaster

## Code keys

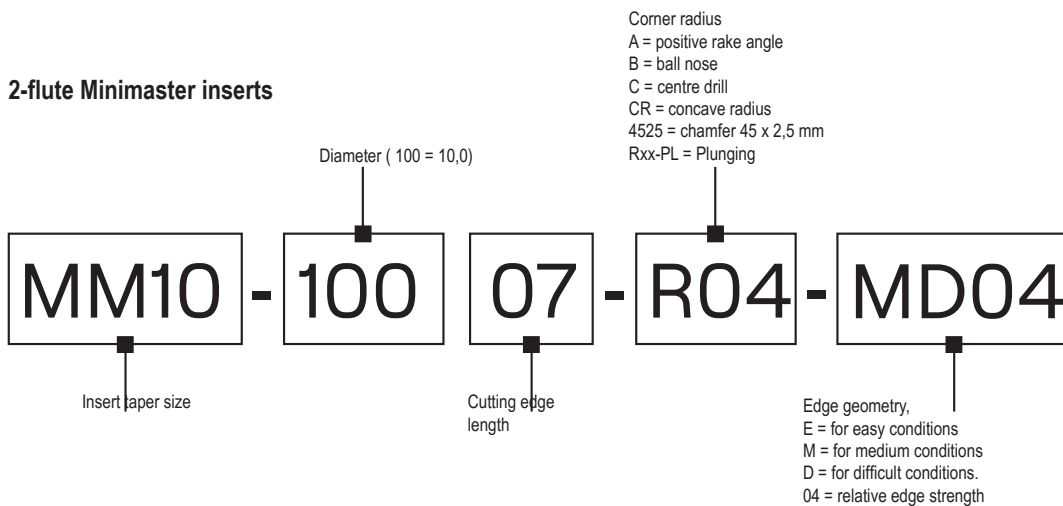
### Shanks



### 3-flute Minimaster inserts



### 2-flute Minimaster inserts



Note that parts of the code can vary for different types of insert or shanks

### Internal through coolant



Universal

Steel and cast iron

Stainless steel and S-materials

Stainless steel and S-materials

Non ferrous

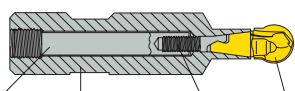
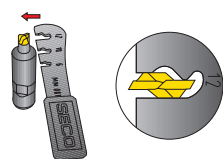
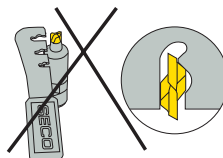
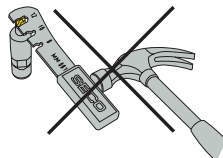
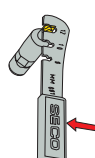
Hard

Graphite

X-Heads

Minimaster

### Mounting instructions for 2-flute Minimaster

| Torque wrench                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div data-bbox="183 436 566 571">  <p>Sleeve      Shank      Tension screw      Insert</p> </div> | <p>The sleeve must be securely tightened in the shank before the tension screw and insert are fitted. If the wrench cannot be used for changing the insert (If the insert has broken off or jammed in the shank) , the sleeve can be released, which will also release the insert. Use Allen key (turn it anti-clockwise) to back off the sleeve until the insert is free. Re-tighten the sleeve in the shank before fitting the tension screw and the new insert. For 3-flute Minimaster another key (MM0416) must be used (Key grip on hexagonal part of the insert.)</p> |
| <div data-bbox="279 705 502 862">  </div>                                                         | <p>Make sure that the wrench is used correctly</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <div data-bbox="279 1008 502 1164">  </div>                                                     | <p>If the wrench is used on the wrong side, it will cause damage</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <div data-bbox="279 1310 502 1467">  </div>                                                     | <p>Do not use excessive force</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <div data-bbox="343 1612 438 1769">  </div>                                                     | <p>Normal hand-power is quite sufficient</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Selection guide

### 1. Select taper size

The design of the workpiece and the machining operations determines suitable taper size. Select the largest possible taper size for best strength and stability.

### 2. Select insert

- Use the tables beginning on page 802 to classify the workpiece material into a Seco material group.
- Look up the pages for the selected taper size and choose a suitable insert in the insert selection table.

### 3. Select shank

- Look up the pages for the selected taper size and choose a suitable shank in the tool data table.
- Always choose the shortest shank possible to achieve the best possible stability.

### 4. Select cutting data

- Cutting speed recommendations are found in the cutting data tables for each selected taper size. Cutting data recommendations are based on stable conditions and might therefore need to be adjusted depending on the stability in the application (tooling, machine & workpiece fixturing). General rule for max ap in slotting is  $DC \cdot 0.3 = \text{Max APMXS}$ . (See figure 1)
- Feed and cutting speed recommendations are found in the cutting data conversion table.
- Maximum RPM that for safety reasons should never be exceeded, are shown on page N/A.
- If the cutter is not fully engaged the feed per tooth and the cutting speed should be increased compared to the recommendations for a fully engaged cutter. The reason for that is to keep the average chip thickness and the working temperature in the cutting zone.
- Divide the radial depth of cut with the cutter diameter to get the actual cutter engagement percentage ( $a_e/DC\%$ ), for ball nose cutters use the effective working diameter  $D_w$  instead of DC (See figure 2 & 6)
- Use the percentage to get a correct feed per tooth and cutting speed recommendation for the actual cutter engagement.

### 5. General

- When milling in corners and bottoms of cavities the feed rate should be reduced due to the increase of the average chip thickness. Use the feed per tooth recommendations for a fully engaged cutter.
- When steep down copying with an angle bigger than  $40^\circ$  or steep up copying with an angle bigger than  $30^\circ$  in combination with small depths of cut, use the diameter (DC) as working diameter instead of  $D_w$ .
- When calculating feed per revolution and feed speed, always use the ZEFP-value. That is the effective number of teeth to use for cutting data calculations. The ZEFP-value can be found in the insert selection table.

**Note!** There will be a deterioration in the surface finish on the workpiece when the feed rate is increased. (See figure 3 & 5)

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

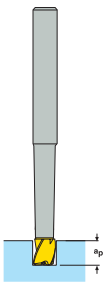
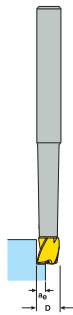
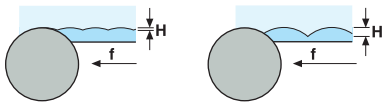
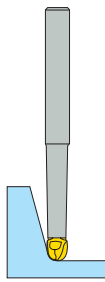
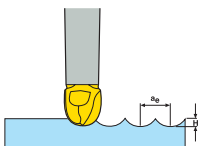
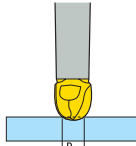
Hard

Graphite

X-Heads

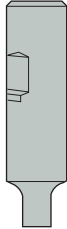
Minimaster

### Minimaster figures

| Universal<br>Steel and cast<br>iron<br>Stainless steel<br>and S-materials<br>Non ferrous<br>Hard<br>Plastic and cfrp<br>Graphite<br>X-Heads<br>Minimaster | Figure 1                                                                            | Figure 2                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                                                                                                                           |    |    |
|                                                                                                                                                           | Figure 3                                                                            | Figure 4                                                                              |
|                                                                                                                                                           |    |   |
|                                                                                                                                                           | Figure 5                                                                            | Figure 6                                                                              |
|                                                                                                                                                           |  |  |



## Shank design

| Design 1, Keyway shank                                                              | Design 2, Cylindrical/Weldon back end and 90° front                                  |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|    |   |
| Design 3, Cylindrical/Weldon back end tapered front 87°/89°                         | Design 4, Cylindrical/Weldon back end tapered front 80°/85°/87°                      |
|   |  |
| Design 5, Cylindrical back end double tapered front end 89°/85°                     |                                                                                      |
|  |                                                                                      |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

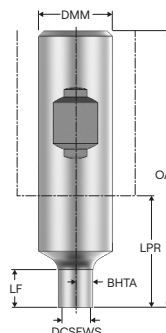
Hard

Graphite

X-Heads

Minimaster

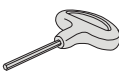
#### MM06 Shank – Metric



| Designation         | Item number | DCSFWS | DMM  | LF   | LPR   | OAL   | BHTA° | Design | CSP | RPMX  | Shank                | Weight | Spare part no. |
|---------------------|-------------|--------|------|------|-------|-------|-------|--------|-----|-------|----------------------|--------|----------------|
|                     |             | mm     | mm   | mm   | mm    | mm    |       |        |     |       |                      | kg     |                |
| MM06-10040.0-0007   | 00094747    | 5,75   | 10,0 | 7,0  | 7,0   | 40,0  | 0,0   | 2      | ■   | 80000 | Cylindrical          | 0,1    | 2              |
| MM06-10050.0-0007DS | 02580666    | 5,75   | 10,0 | 7,0  | 7,0   | 50,0  | 0,0   | 2      | ■   | 80000 | Cylindrical Densimet | 0,1    | 3              |
| MM06-10075.0-3041DS | 02580701    | 5,75   | 10,0 | 40,5 | 35,0  | 75,0  | 3,0   | 4      | ■   | 80000 | Cylindrical Densimet | 0,1    | 3              |
| MM06-10100.0-1035DS | 02580713    | 5,75   | 10,0 | 35,0 | 60,0  | 100,0 | 1,0   | 3      | ■   | 80000 | Cylindrical Densimet | 0,1    | 3              |
| MM06-12070.3-0005   | 75080695    | 5,75   | 12,0 | 5,0  | 25,0  | 70,0  | 0,0   | 2      | ■   | 80000 | Weldon               | 0,1    | 1              |
| MM06-12065.0-0000   | 75080694    | 5,7    | 12,0 | 0,0  | 15,0  | 65,0  | 60,0  | 1      | ■   | 80000 | Cylindrical          | 0,1    | 1              |
| MM06-12120.0-1050DS | 02580714    | 5,75   | 12,0 | 50,0 | 75,0  | 120,0 | 1,0   | 3      | ■   | 80000 | Cylindrical Densimet | 0,2    | 3              |
| MM06-16075.3-3009   | 75080696    | 5,75   | 16,0 | 9,0  | 27,0  | 75,0  | 3,0   | 3      | ■   | 80000 | Weldon               | 0,1    | 1              |
| MM06-16110.3-5058   | 75080697    | 5,75   | 16,0 | 58,6 | 62,0  | 110,0 | 5,0   | 4      | ■   | 80000 | Weldon               | 0,2    | 4              |
| MM06-16140.0-1020M  | 00027102    | 5,75   | 16,0 | 20,0 | 92,0  | 140,0 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0,2    | 5              |
| MM06-16140.0-1035M  | 00027103    | 5,75   | 16,0 | 35,0 | 92,0  | 140,0 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0,2    | 6              |
| MM06-16140.0-1050M  | 00094748    | 5,75   | 16,0 | 50,0 | 92,0  | 140,0 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0,2    | 6              |
| MM06-16090.0-0012DS | 02580670    | 5,75   | 16,0 | 12,0 | 42,0  | 90,0  | 0,0   | 2      | ■   | 80000 | Cylindrical Densimet | 0,3    | 3              |
| MM06-16095.0-0024DS | 02580673    | 5,75   | 16,0 | 24,0 | 47,0  | 95,0  | 0,0   | 2      | ■   | 80000 | Cylindrical Densimet | 0,3    | 3              |
| MM06-16140.0-1050DS | 02580717    | 5,75   | 16,0 | 50,0 | 92,0  | 140,0 | 1,0   | 3      | ■   | 80000 | Cylindrical Densimet | 0,3    | 3              |
| MM06-16140.0-1035DS | 02580716    | 5,75   | 16,0 | 35,0 | 92,0  | 140,0 | 1,0   | 3      | ■   | 80000 | Cylindrical Densimet | 0,4    | 3              |
| MM06-20250.0-1035DS | 02580718    | 5,75   | 20,0 | 35,0 | 190,0 | 250,0 | 1,0   | 5      | ■   | 80000 | Cylindrical Densimet | 0,9    | 3              |

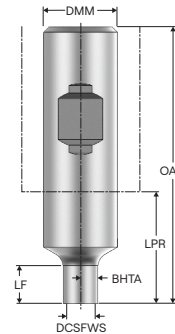
#### Spare Parts, included in delivery

#### Accessories

| For cutter | Sleeve                                                                              | Tension screw                                                                       | Sleeve key                                                                            |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|            |  |  |  |
| 1          | MM-035046                                                                           | MM06-03518                                                                          | H05-4                                                                                 |
| 2          | MM-035023                                                                           | MM06-03518                                                                          | H05-4                                                                                 |
| 3          | –                                                                                   | MM06-03518                                                                          | –                                                                                     |
| 4          | MM-035091                                                                           | MM06-03518                                                                          | H05-4                                                                                 |
| 5          | MM-035046                                                                           | MM06-03544                                                                          | H05-4                                                                                 |
| 6          | MM-035046                                                                           | MM06-03564                                                                          | H05-4                                                                                 |

Allen key H05-4 for sleeve to be ordered separately.  
For wrench types, see insert pages

MM06 Shank – Inch



| Designation             | Item number | DCSFWS | DMM   | LF    | LPR   | OAL   | BHTA° | Design | CSP | RPMX  | Shank                | Weight | Spare part no. |
|-------------------------|-------------|--------|-------|-------|-------|-------|-------|--------|-----|-------|----------------------|--------|----------------|
|                         |             | inch   | inch  | inch  | inch  | inch  |       |        |     |       |                      | lbs    |                |
| MM06-0.38-1.6-0-0002    | 00096107    | 0.224  | 0.375 | 0.276 | 0.276 | 1.575 | 0,0   | 2      | ■   | 80000 | Cylindrical          | 0.220  | 2              |
| MM06-0.50-2.8-3-0002    | 00096108    | 0.224  | 0.500 | 0.197 | 0.984 | 2.756 | 0,0   | 2      | ■   | 80000 | Weldon               | 0.220  | 1              |
| MM06-0.50-2.6-0-0000    | 00096106    | 0.224  | 0.500 | 0     | 0.787 | 2.559 | 60,0  | 1      | ■   | 80000 | Cylindrical          | 0.220  | 1              |
| MM06-0.62-3.0-3-3003    | 00096116    | 0.224  | 0.625 | 0.354 | 1.063 | 2.953 | 3,0   | 1      | ■   | 80000 | Weldon               | 0.220  | 1              |
| MM06-0.62-4.3-3-5022    | 00096117    | 0.224  | 0.625 | 2.291 | 2.441 | 4.331 | 5,0   | 2      | ■   | 80000 | Weldon               | 0.440  | 4              |
| MM06-0.62-5.5-0-1007    | 00096111    | 0.224  | 0.625 | 0.787 | 3.622 | 5.512 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0.440  | 5              |
| MM06-0.62-5.5-0-1013    | 00096112    | 0.224  | 0.625 | 1.378 | 3.622 | 5.512 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0.440  | 6              |
| MM06-0.62-5.5-0-1019    | 00096114    | 0.224  | 0.625 | 1.969 | 3.622 | 5.512 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0.440  | 6              |
| MM06-0.62-3.5-0-0004DS  | 02593394    | 0.224  | 0.625 | 0.472 | 1.654 | 3.543 | 0,0   | 2      | ■   | 80000 | Cylindrical Densimet | 0.660  | 3              |
| MM06-0.62-3.7-0-0009DS  | 02593395    | 0.224  | 0.625 | 0.945 | 1.850 | 3.740 | 0,0   | 2      | ■   | 80000 | Cylindrical Densimet | 0.660  | 3              |
| MM06-0.62-5.5-0-1013DS  | 02593396    | 0.224  | 0.625 | 1.378 | 3.622 | 5.512 | 1,0   | 3      | ■   | 80000 | Cylindrical Densimet | 0.880  | 3              |
| MM06-0.62-5.5-0-1019DS  | 02593397    | 0.224  | 0.625 | 1.969 | 3.622 | 5.512 | 1,0   | 3      | ■   | 80000 | Cylindrical Densimet | 0.660  | 3              |
| MM06-0.75-10.0-0-1013DS | 02593399    | 0.224  | 0.750 | 1.378 | 7.874 | 9.843 | 1,0   | 5      | ■   | 80000 | Cylindrical Densimet | 1.760  | 3              |

Spare Parts, included in delivery

Accessories

| For cutter | Sleeve                                                                              | Tension screw                                                                       | Sleeve key                                                                            |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|            |  |  |  |
| 1          | MM-035046                                                                           | MM06-03518                                                                          | H05-4                                                                                 |
| 2          | MM-035023                                                                           | MM06-03518                                                                          | H05-4                                                                                 |
| 3          | –                                                                                   | MM06-03518                                                                          | –                                                                                     |
| 4          | MM-035091                                                                           | MM06-03518                                                                          | H05-4                                                                                 |
| 5          | MM-035046                                                                           | MM06-03544                                                                          | H05-4                                                                                 |
| 6          | MM-035046                                                                           | MM06-03564                                                                          | H05-4                                                                                 |

Allen key H05-4 for sleeve to be ordered separately.  
For wrench types, see insert pages

Universal

Steel and cast iron

Stainless steel and S-materials

Stainless steel and S-materials

Non ferrous

Hard

Graphite

X-Heads

Minimaster

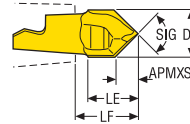
#### Slot milling/square shoulder milling



—For Torque keys and torque values, see page 799

|                                       |               |              |              |              |       |       |       |      |      |        |                                                                                     | Grades |      |      |      |
|---------------------------------------|---------------|--------------|--------------|--------------|-------|-------|-------|------|------|--------|-------------------------------------------------------------------------------------|--------|------|------|------|
| Designation                           | DC            | APMXS        | RE           | LF           | RMPX° | C min | C max | FHA° | ZEFP | Wrench |  | Coated |      |      |      |
|                                       | mm<br>Inch    | mm<br>Inch   | mm<br>Inch   | mm<br>Inch   |       |       |       |      |      |        |                                                                                     | T60M   | F15M | F30M | F40M |
| <a href="#">MM06-05804T-R02-D02</a>   | 5,8<br>0.228  | 4,1<br>0.161 | 0,2<br>0.008 | 5,1<br>0.201 | 15,0  | 7,2   | 11,0  | 0    | 2    | MM0612 |                                                                                     | ■      |      |      |      |
| <a href="#">MM06-05807-R02A30-M02</a> | 5,8<br>0.228  | 7,5<br>0.295 | 0,2<br>0.008 | 9,9<br>0.390 | 15,0  | 7,2   | 11,0  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| <a href="#">MM06-06004-M02</a>        | 6,0<br>0.236  | 4,1<br>0.161 | –            | 5,1<br>0.201 | 15,0  | 7,4   | 11,8  | 0    | 2    | MM0612 |                                                                                     | ■      |      |      |      |
| <a href="#">MM06-06004-R04-MD02</a>   | 6,0<br>0.236  | 4,1<br>0.161 | 0,4<br>0.016 | 5,1<br>0.201 | 15,0  | 7,4   | 11,0  | 0    | 2    | MM0612 |                                                                                     | ■      |      | ■    |      |
| <a href="#">MM06-06004-R10-MD02</a>   | 6,0<br>0.236  | 4,1<br>0.161 | 1,0<br>0.039 | 5,1<br>0.201 | 15,0  | 7,4   | 9,8   | 0    | 2    | MM0612 |                                                                                     |        |      | ■    |      |
| <a href="#">MM06-06007-A30-E02</a>    | 6,0<br>0.236  | 7,5<br>0.295 | –            | 9,9<br>0.390 | 15,0  | 7,4   | 11,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| <a href="#">MM06-06007-R05A30-M02</a> | 6,0<br>0.236  | 7,5<br>0.295 | 0,5<br>0.020 | 9,9<br>0.390 | 15,0  | 7,4   | 10,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| <a href="#">MM06-06007-R10A30-D02</a> | 6,0<br>0.236  | 7,5<br>0.295 | 1,0<br>0.039 | 9,9<br>0.390 | 15,0  | 7,4   | 9,8   | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| <a href="#">MM06-06007-R10A30-E02</a> | 6,0<br>0.236  | 7,5<br>0.295 | 1,0<br>0.039 | 9,9<br>0.390 | 15,0  | 7,4   | 9,8   | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| <a href="#">MM06-06007-R10A30-M02</a> | 6,0<br>0.236  | 7,5<br>0.295 | 1,0<br>0.039 | 9,9<br>0.390 | 15,0  | 7,4   | 9,8   | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| <a href="#">MM06-06007-R20A30-M02</a> | 6,0<br>0.236  | 7,5<br>0.295 | 2,0<br>0.079 | 9,9<br>0.390 | 15,0  | 7,4   | 7,8   | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| <a href="#">MM06-06407-A30-E02</a>    | 6,35<br>0.250 | 7,5<br>0.295 | –            | 9,9<br>0.390 | 15,0  | 7,8   | 12,5  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| <a href="#">MM06-06407-R04A30-M02</a> | 6,35<br>0.250 | 7,5<br>0.295 | 0,4<br>0.016 | 9,9<br>0.390 | 15,0  | 7,8   | 11,7  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| <a href="#">MM06-06407-R08A30-M02</a> | 6,35<br>0.250 | 7,5<br>0.295 | 0,8<br>0.031 | 9,9<br>0.390 | 15,0  | 7,8   | 10,9  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |

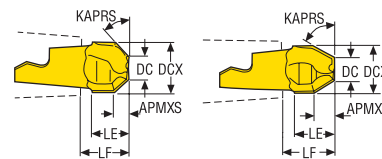
#### Centre drilling



—For Torque keys and torque values, see page 799

| Designation         | DC           | APMXS         | LE            | LF            | SIG°  | ZEFP | Wrench | Grades |      |      |      |
|---------------------|--------------|---------------|---------------|---------------|-------|------|--------|--------|------|------|------|
|                     |              |               |               |               |       |      |        | Coated |      |      |      |
|                     | mm<br>Inch   | mm<br>Inch    | mm<br>Inch    | mm<br>Inch    |       |      |        | T60M   | F15M | F30M | F40M |
| MM06-06003-C120-M02 | 6,0<br>0.236 | 1,6<br>0.063  | 6,27<br>0.247 | 7,19<br>0.283 | 120,0 | 2    | MM0612 | ■      |      |      |      |
| MM06-06003-C90-M02  | 6,0<br>0.236 | 2,86<br>0.113 | 6,0<br>0.236  | 7,12<br>0.280 | 90,0  | 2    | MM0612 | ■      |      |      |      |

#### Chamfering



—For Torque keys and torque values, see page 799

| Designation         | DCX          | DC            | APMXS        | RE           | LE           | LF            | KAPRS° | ZEFP | Wrench | Grades |      |      |      |
|---------------------|--------------|---------------|--------------|--------------|--------------|---------------|--------|------|--------|--------|------|------|------|
|                     |              |               |              |              |              |               |        |      |        | Coated |      |      |      |
|                     | mm<br>Inch   | mm<br>Inch    | mm<br>Inch   | mm<br>Inch   | mm<br>Inch   | mm<br>Inch    |        |      |        | T60M   | F15M | F30M | F40M |
| MM06-06004-4515-E02 | 6,0<br>0.236 | 1,8<br>0.071  | 2,1<br>0.083 | 0,2<br>0.008 | 4,0<br>0.157 | 5,1<br>0.201  | 45,0   | 2    | MM0612 | ■      |      |      |      |
| MM06-06004-6015-E02 | 6,0<br>0.236 | 3,14<br>0.124 | 2,4<br>0.094 | 0,2<br>0.008 | 4,6<br>0.181 | 5,75<br>0.226 | 60,0   | 2    | MM0612 | ■      |      |      |      |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

Hard

Graphite

X-Heads

Minimaster

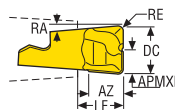
#### Double chamfering



—For Torque keys and torque values, see page 799

| Designation           | DCX          | DC           | APMXS        | DN           | LF           | BEC° | KAPRS° | ZEFP | Wrench | Grades |      |      |      |
|-----------------------|--------------|--------------|--------------|--------------|--------------|------|--------|------|--------|--------|------|------|------|
|                       |              |              |              |              |              |      |        |      |        | Coated |      |      |      |
|                       | mm<br>Inch   | mm<br>Inch   | mm<br>Inch   | mm<br>Inch   | mm<br>Inch   |      |        |      |        | T60M   | F15M | F30M | F40M |
| MM06-08008-D4510P-M02 | 8,0<br>0.315 | 0,6<br>0.024 | 3,7<br>0.146 | 6,0<br>0.236 | 8,5<br>0.335 | 90,0 | 45,0   | 2    | MM0612 |        | ■    |      |      |

#### Plunge milling



—For Torque keys and torque values, see page 799

| Designation            | DC           | APMXE        | RE           | AZ           | LF            | RA° | ZEFP | Wrench | Grades |      |      |      |
|------------------------|--------------|--------------|--------------|--------------|---------------|-----|------|--------|--------|------|------|------|
|                        |              |              |              |              |               |     |      |        | Coated |      |      |      |
|                        | mm<br>Inch   | mm<br>Inch   | mm<br>Inch   | mm<br>Inch   | mm<br>Inch    |     |      |        | T60M   | F15M | F30M | F40M |
| MM06-06004-R10-PL-MD02 | 6,0<br>0.236 | 3,0<br>0.118 | 1,0<br>0.039 | 4,3<br>0.169 | 5,08<br>0.200 | 5,0 | 2    | MM0612 |        |      | ■    |      |

Precision inserts for semi-finishing in all materials



—For Torque keys and torque values, see page 799

| Designation           | DC           | APMXS        | RE           | LE           | DN           | LF            | SA°   | ZEFP | Wrench | Grades |      |      |      |
|-----------------------|--------------|--------------|--------------|--------------|--------------|---------------|-------|------|--------|--------|------|------|------|
|                       |              |              |              |              |              |               |       |      |        | Coated |      |      |      |
|                       |              |              |              |              |              |               |       |      |        | T60M   | F15M | F30M | F40M |
| MM06-08008-B120PF-M01 | 8,0<br>0.315 | 4,0<br>0.157 | 4,0<br>0.157 | 8,0<br>0.315 | 6,0<br>0.236 | 8,73<br>0.344 | 263,0 | 2    | MM0612 |        | ■    |      |      |
| MM06-08008-B120P-M03  | 8,0<br>0.315 | 4,0<br>0.157 | 4,0<br>0.157 | 8,0<br>0.315 | 6,0<br>0.236 | 8,73<br>0.344 | 263,0 | 2    | MM0612 |        |      | ■    |      |

### Copy milling



—For Torque keys and torque values, see page 799

| Designation           | DC            | APMXS        | RE             | LF            | FHA° | ZEFP | Wrench |  | Grades |      |      |      |
|-----------------------|---------------|--------------|----------------|---------------|------|------|--------|---------------------------------------------------------------------------------------|--------|------|------|------|
|                       |               |              |                |               |      |      |        |                                                                                       | Coated |      |      |      |
|                       |               |              |                |               |      |      |        |                                                                                       | T60M   | F15M | F30M | F40M |
| MM06-06006-B90-MD02   | 6,0<br>0.236  | 6,1<br>0.240 | 3,0<br>0.118   | 7,06<br>0.278 |      |      | 2      | MM0612                                                                                | ■      |      | ■    |      |
| MM06-06006-B90PF-M01  | 6,0<br>0.236  | 5,2<br>0.205 | 3,0<br>0.118   | 7,04<br>0.277 |      |      | 2      | MM0612                                                                                |        | ■    |      |      |
| MM06-06006-B90P-M02   | 6,0<br>0.236  | 5,2<br>0.205 | 3,0<br>0.118   | 7,04<br>0.277 |      |      | 2      | MM0612                                                                                |        |      | ■    |      |
| MM06-06006-B90S-E02   | 6,0<br>0.236  | 6,1<br>0.240 | 3,0<br>0.118   | 7,06<br>0.278 |      |      | 2      | MM0612                                                                                |        |      | ■    |      |
| MM06-06007-B90A30-E02 | 6,0<br>0.236  | 7,4<br>0.291 | 3,0<br>0.118   | 9,85<br>0.388 | 30,0 | 3    | MM0416 | ✓                                                                                     |        |      | ■    |      |
| MM06-06007-B90A30-M02 | 6,0<br>0.236  | 7,4<br>0.291 | 3,0<br>0.118   | 9,85<br>0.388 | 30,0 | 3    | MM0416 | ✓                                                                                     |        |      |      | ■    |
| MM06-06406-B90P-M02   | 6,35<br>0.250 | 5,4<br>0.213 | 3,175<br>0.125 | 7,22<br>0.284 |      |      | 2      | MM0612                                                                                |        |      | ■    |      |
| MM06-06406-B90S-E02   | 6,35<br>0.250 | 6,3<br>0.248 | 3,175<br>0.125 | 7,24<br>0.285 |      |      | 2      | MM0612                                                                                |        |      | ■    |      |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

Hard

Graphite

X-Heads

Minimaster

### MM06 – Slot and Side milling – Insert selection – Metric/ Inch

|                                 | SMG |                            | $a_p$         | $f_z$            |                  |                  |                  |
|---------------------------------|-----|----------------------------|---------------|------------------|------------------|------------------|------------------|
|                                 |     |                            |               | 100%             | 40%              | 20%              | 10%              |
| Universal                       | P1  | MM06-06007-R05A30-M02 F40M | 1,3<br>0,050  | 0,030<br>0.0012  | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,048<br>0.0019  |
|                                 | P2  | MM06-06007-R05A30-M02 F40M | 1,3<br>0,050  | 0,030<br>0.0012  | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,048<br>0.0019  |
| Steel and cast iron             | P3  | MM06-06007-R05A30-M02 F40M | 1,3<br>0,050  | 0,028<br>0.0011  | 0,028<br>0.0011  | 0,034<br>0.0013  | 0,046<br>0.0018  |
|                                 | P4  | MM06-06007-R05A30-M02 F40M | 1,3<br>0,050  | 0,028<br>0.0011  | 0,028<br>0.0011  | 0,034<br>0.0013  | 0,044<br>0.0017  |
|                                 | P5  | MM06-06007-R05A30-M02 F40M | 1,3<br>0,050  | 0,028<br>0.0011  | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,044<br>0.0017  |
|                                 | P6  | MM06-06007-R05A30-M02 F40M | 1,3<br>0,050  | 0,028<br>0.0011  | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,044<br>0.0017  |
|                                 | P7  | MM06-06007-R05A30-M02 F40M | 1,3<br>0,050  | 0,028<br>0.0011  | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,044<br>0.0017  |
|                                 | P8  | MM06-06007-R05A30-M02 F40M | 1,3<br>0,050  | 0,028<br>0.0011  | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,044<br>0.0017  |
| Stainless steel and S-materials | P11 | MM06-06007-R05A30-M02 F40M | 1,3<br>0,050  | 0,028<br>0.0011  | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,044<br>0.0017  |
|                                 | P12 | MM06-06007-R05A30-M02 F40M | 1,0<br>0,040  | 0,020<br>0.00080 | 0,020<br>0.00080 | 0,022<br>0.00085 | 0,030<br>0.0012  |
|                                 | M1  | MM06-06007-R05A30-M02 F40M | 1,3<br>0,050  | 0,030<br>0.0012  | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,048<br>0.0019  |
|                                 | M2  | MM06-06007-R05A30-M02 F40M | 1,3<br>0,050  | 0,028<br>0.0011  | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,044<br>0.0017  |
| Non ferrous                     | M3  | MM06-06007-R05A30-M02 F40M | 1,0<br>0,040  | 0,024<br>0.00095 | 0,024<br>0.00095 | 0,026<br>0.0010  | 0,036<br>0.0014  |
|                                 | M4  | MM06-06007-R05A30-M02 F40M | 0,80<br>0,032 | 0,022<br>0.00085 | 0,022<br>0.00080 | 0,024<br>0.00095 | 0,030<br>0.0012  |
|                                 | M5  | MM06-06007-R05A30-M02 F40M | 0,80<br>0,032 | 0,022<br>0.00085 | 0,020<br>0.00080 | 0,024<br>0.00095 | 0,030<br>0.0012  |
|                                 | K1  | MM06-06007-R10A30-D02 F30M | 1,3<br>0,050  | 0,036<br>0.0014  | 0,034<br>0.0013  | 0,038<br>0.0015  | 0,050<br>0.0020  |
|                                 | K2  | MM06-06007-R10A30-D02 F30M | 1,3<br>0,050  | 0,032<br>0.0013  | 0,032<br>0.0013  | 0,034<br>0.0013  | 0,044<br>0.0017  |
| Hard                            | K3  | MM06-06007-R10A30-D02 F30M | 1,3<br>0,050  | 0,032<br>0.0013  | 0,032<br>0.0013  | 0,034<br>0.0013  | 0,044<br>0.0017  |
|                                 | K4  | MM06-06007-R10A30-D02 F30M | 1,3<br>0,050  | 0,032<br>0.0013  | 0,032<br>0.0013  | 0,034<br>0.0013  | 0,044<br>0.0017  |
|                                 | K5  | MM06-06007-R10A30-D02 F30M | 1,3<br>0,050  | 0,030<br>0.0012  | 0,028<br>0.0011  | 0,030<br>0.0012  | 0,040<br>0.0016  |
|                                 | K6  | MM06-06007-R10A30-D02 F30M | 1,3<br>0,050  | 0,032<br>0.0013  | 0,032<br>0.0013  | 0,034<br>0.0013  | 0,044<br>0.0017  |
|                                 | K7  | MM06-06007-R10A30-D02 F30M | 1,3<br>0,050  | 0,030<br>0.0012  | 0,028<br>0.0011  | 0,030<br>0.0012  | 0,040<br>0.0016  |
| Plastic and cfrp                | N1  | MM06-06007-R10A30-E02 F30M | 1,3<br>0,050  | 0,046<br>0.0018  | 0,044<br>0.0017  | 0,048<br>0.0019  | 0,065<br>0.0026  |
|                                 | N2  | MM06-06007-R10A30-E02 F30M | 1,3<br>0,050  | 0,046<br>0.0018  | 0,044<br>0.0017  | 0,048<br>0.0019  | 0,065<br>0.0026  |
|                                 | N3  | MM06-06007-R10A30-E02 F30M | 1,3<br>0,050  | 0,046<br>0.0018  | 0,044<br>0.0017  | 0,048<br>0.0019  | 0,065<br>0.0026  |
|                                 | N11 | MM06-06007-R10A30-E02 F30M | 1,3<br>0,050  | 0,046<br>0.0018  | 0,044<br>0.0017  | 0,048<br>0.0019  | 0,065<br>0.0026  |
| Graphite                        | S1  | MM06-06007-R10A30-D02 F30M | 0,80<br>0,032 | 0,026<br>0.0011  | 0,025<br>0.0010  | 0,024<br>0.0010  | 0,028<br>0.0013  |
|                                 | S2  | MM06-06007-R10A30-D02 F30M | 0,80<br>0,032 | 0,026<br>0.0011  | 0,026<br>0.0010  | 0,025<br>0.0010  | 0,032<br>0.0013  |
|                                 | S3  | MM06-06007-R10A30-D02 F30M | 0,80<br>0,032 | 0,026<br>0.0010  | 0,025<br>0.0010  | 0,024<br>0.00095 | 0,028<br>0.0012  |
|                                 | S11 | MM06-06007-R05A30-M02 F40M | 0,90<br>0,036 | 0,024<br>0.00095 | 0,024<br>0.00095 | 0,026<br>0.0010  | 0,036<br>0.0014  |
| X-Heads                         | S12 | MM06-06007-R05A30-M02 F40M | 0,90<br>0,036 | 0,024<br>0.00095 | 0,024<br>0.00095 | 0,026<br>0.0010  | 0,036<br>0.0014  |
|                                 | S13 | MM06-06007-R05A30-M02 F40M | 0,80<br>0,032 | 0,022<br>0.00085 | 0,020<br>0.00080 | 0,024<br>0.00095 | 0,030<br>0.0012  |
|                                 | H5  | MM06-06007-R10A30-D02 F30M | 1,0<br>0,040  | 0,025<br>0.0010  | 0,024<br>0.00095 | 0,024<br>0.00095 | 0,030<br>0.0012  |
|                                 | H8  | MM06-06007-R10A30-D02 F30M | 0,90<br>0,036 | 0,020<br>0.00080 | 0,019<br>0.00075 | 0,018<br>0.00070 | 0,024<br>0.00095 |
| Minimaster                      | H11 | MM06-06007-R10A30-D02 F30M | 1,0<br>0,040  | 0,025<br>0.0010  | 0,024<br>0.00095 | 0,024<br>0.00095 | 0,030<br>0.0012  |
|                                 | H12 | MM06-06007-R10A30-D02 F30M | 0,90<br>0,036 | 0,020<br>0.00080 | 0,019<br>0.00075 | 0,018<br>0.00070 | 0,024<br>0.00095 |
|                                 | H21 | MM06-06007-R10A30-D02 F30M | 0,90<br>0,036 | 0,020<br>0.00080 | 0,019<br>0.00075 | 0,018<br>0.00070 | 0,024<br>0.00095 |

SMG = Seco material group  
 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %  
 All cutting data are start values



MM06 – Slot and Side milling – Cutting data  $v_c = (m/min)/(sf/min)$

| SMG | F30M |      |      |      | F40M |      |      |      | T60M |      |      |      | Universal<br>iron |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|-------------------|
|     | 100% | 40%  | 20%  | 10%  | 100% | 40%  | 20%  | 10%  | 100% | 40%  | 20%  | 10%  |                   |
| P1  | 280  | 350  | 395  | 435  | 270  | 335  | 375  | 415  | 220  | 270  | 300  | 330  |                   |
|     | 920  | 1150 | 1300 | 1425 | 890  | 1100 | 1225 | 1350 | 720  | 890  | 980  | 1075 |                   |
| P2  | 275  | 340  | 380  | 420  | 260  | 325  | 365  | 400  | 210  | 260  | 295  | 320  |                   |
|     | 900  | 1125 | 1250 | 1375 | 850  | 1075 | 1200 | 1300 | 690  | 850  | 970  | 1050 |                   |
| P3  | 240  | 295  | 330  | 365  | 225  | 285  | 315  | 350  | 185  | 230  | 255  | 280  |                   |
|     | 790  | 970  | 1075 | 1200 | 740  | 940  | 1025 | 1150 | 610  | 750  | 840  | 920  |                   |
| P4  | 210  | 260  | 295  | 320  | 200  | 250  | 280  | 305  | 160  | 200  | 225  | 245  |                   |
|     | 690  | 850  | 970  | 1050 | 660  | 820  | 920  | 1000 | 520  | 660  | 740  | 800  |                   |
| P5  | 200  | 250  | 280  | 310  | 190  | 240  | 265  | 295  | 155  | 190  | 215  | 235  |                   |
|     | 660  | 820  | 920  | 1025 | 620  | 790  | 870  | 970  | 510  | 620  | 710  | 770  |                   |
| P6  | 225  | 285  | 315  | 345  | 215  | 270  | 300  | 330  | 175  | 215  | 240  | 265  |                   |
|     | 740  | 940  | 1025 | 1125 | 710  | 890  | 980  | 1075 | 570  | 710  | 790  | 870  |                   |
| P7  | 215  | 265  | 295  | 325  | 205  | 255  | 285  | 310  | 165  | 205  | 230  | 250  |                   |
|     | 710  | 870  | 970  | 1075 | 670  | 840  | 940  | 1025 | 540  | 670  | 750  | 820  |                   |
| P8  | 200  | 250  | 280  | 305  | 190  | 240  | 265  | 290  | 155  | 190  | 215  | 235  |                   |
|     | 660  | 820  | 920  | 1000 | 620  | 790  | 870  | 950  | 510  | 620  | 710  | 770  |                   |
| P11 | 210  | 260  | 290  | 320  | 200  | 245  | 275  | 305  | 160  | 200  | 220  | 245  |                   |
|     | 690  | 850  | 950  | 1050 | 660  | 800  | 900  | 1000 | 520  | 660  | 720  | 800  |                   |
| P12 | 130  | 160  | 175  | 195  | 125  | 150  | 170  | 185  | 100  | 125  | 135  | 150  |                   |
|     | 425  | 520  | 570  | 640  | 410  | 490  | 560  | 610  | 330  | 410  | 445  | 490  |                   |
| M1  | —    | —    | —    | —    | 210  | 265  | 295  | 320  | 170  | 210  | 235  | 260  |                   |
|     | —    | —    | —    | —    | 690  | 870  | 970  | 1050 | 560  | 690  | 770  | 850  |                   |
| M2  | —    | —    | —    | —    | 175  | 215  | 240  | 265  | 140  | 170  | 195  | 210  |                   |
|     | —    | —    | —    | —    | 570  | 710  | 790  | 870  | 460  | 560  | 640  | 690  |                   |
| M3  | —    | —    | —    | —    | 135  | 165  | 190  | 205  | 110  | 135  | 150  | 165  |                   |
|     | —    | —    | —    | —    | 445  | 540  | 620  | 670  | 360  | 445  | 490  | 540  |                   |
| M4  | —    | —    | —    | —    | 105  | 130  | 145  | 155  | 85   | 105  | 115  | 125  |                   |
|     | —    | —    | —    | —    | 345  | 425  | 475  | 510  | 280  | 345  | 375  | 410  |                   |
| M5  | —    | —    | —    | —    | 85   | 105  | 120  | 130  | 70   | 85   | 95   | 105  |                   |
|     | —    | —    | —    | —    | 280  | 345  | 395  | 425  | 230  | 280  | 310  | 345  |                   |
| K1  | 215  | 270  | 305  | 335  | 205  | 260  | 290  | 315  | 165  | 210  | 230  | 255  |                   |
|     | 710  | 890  | 1000 | 1100 | 670  | 850  | 950  | 1025 | 540  | 690  | 750  | 840  |                   |
| K2  | 190  | 235  | 265  | 295  | 180  | 225  | 255  | 280  | 150  | 180  | 205  | 225  |                   |
|     | 620  | 770  | 870  | 970  | 590  | 740  | 840  | 920  | 490  | 590  | 670  | 740  |                   |
| K3  | 160  | 200  | 225  | 250  | 155  | 190  | 215  | 235  | 125  | 155  | 175  | 190  |                   |
|     | 520  | 660  | 740  | 820  | 510  | 620  | 710  | 770  | 410  | 510  | 570  | 620  |                   |
| K4  | 155  | 190  | 215  | 235  | 145  | 180  | 205  | 225  | 120  | 145  | 165  | 180  |                   |
|     | 510  | 620  | 710  | 770  | 475  | 590  | 670  | 740  | 395  | 475  | 540  | 590  |                   |
| K5  | 95   | 115  | 130  | 145  | 90   | 110  | 125  | 135  | 70   | 90   | 100  | 110  |                   |
|     | 310  | 375  | 425  | 475  | 295  | 360  | 410  | 445  | 230  | 295  | 330  | 360  |                   |
| K6  | 135  | 170  | 190  | 210  | 130  | 160  | 180  | 200  | 105  | 130  | 145  | 160  |                   |
|     | 445  | 560  | 620  | 690  | 425  | 520  | 590  | 660  | 345  | 425  | 475  | 520  |                   |
| K7  | 120  | 150  | 165  | 180  | 115  | 140  | 160  | 175  | 90   | 115  | 125  | 140  |                   |
|     | 395  | 490  | 540  | 590  | 375  | 460  | 520  | 570  | 295  | 375  | 410  | 460  |                   |
| N1  | 1650 | 2050 | 2325 | 2525 | 1575 | 1975 | 2200 | 2400 | 1275 | 1575 | 1775 | 1950 |                   |
|     | 5425 | 6725 | 7625 | 8275 | 5175 | 6475 | 7225 | 7875 | 4175 | 5175 | 5825 | 6400 |                   |
| N2  | 670  | 830  | 930  | 1025 | 640  | 790  | 890  | 970  | 510  | 640  | 710  | 790  |                   |
|     | 2200 | 2725 | 3050 | 3375 | 2100 | 2600 | 2925 | 3175 | 1675 | 2100 | 2325 | 2600 |                   |
| N3  | 445  | 560  | 620  | 680  | 425  | 530  | 590  | 650  | 340  | 425  | 475  | 530  |                   |
|     | 1450 | 1825 | 2025 | 2225 | 1400 | 1750 | 1925 | 2125 | 1125 | 1400 | 1550 | 1750 |                   |
| N11 | 510  | 630  | 710  | 780  | 485  | 600  | 680  | 740  | 390  | 485  | 540  | 600  |                   |
|     | 1675 | 2075 | 2325 | 2550 | 1600 | 1975 | 2225 | 2425 | 1275 | 1600 | 1775 | 1975 |                   |
| S1  | 50   | 65   | 70   | 75   | 49   | 60   | 65   | 75   | 39   | 49   | 55   | 60   |                   |
|     | 165  | 215  | 230  | 245  | 160  | 195  | 215  | 245  | 130  | 160  | 180  | 195  |                   |
| S2  | 41   | 50   | 55   | 60   | 39   | 48   | 55   | 60   | 32   | 39   | 44   | 48   |                   |
|     | 135  | 165  | 180  | 195  | 130  | 155  | 180  | 195  | 105  | 130  | 145  | 155  |                   |
| S3  | 36   | 44   | 49   | 55   | 34   | 42   | 47   | 50   | 27   | 34   | 38   | 41   |                   |
|     | 120  | 145  | 160  | 180  | 110  | 140  | 155  | 165  | 90   | 110  | 125  | 135  |                   |
| S11 | —    | —    | —    | —    | 70   | 85   | 95   | 105  | 55   | 70   | 75   | 85   |                   |
|     | —    | —    | —    | —    | 230  | 280  | 310  | 345  | 180  | 230  | 245  | 280  |                   |
| S12 | —    | —    | —    | —    | 48   | 60   | 65   | 70   | 38   | 48   | 55   | 60   |                   |
|     | —    | —    | —    | —    | 155  | 195  | 215  | 245  | 125  | 155  | 180  | 195  |                   |
| S13 | —    | —    | —    | —    | 27   | 34   | 38   | 41   | 22   | 27   | 30   | 33   |                   |
|     | —    | —    | —    | —    | 90   | 110  | 125  | 135  | 70   | 90   | 100  | 110  |                   |
| H5  | 43   | 55   | 60   | 65   | 41   | 50   | 55   | 60   | 33   | 41   | 45   | 50   |                   |
|     | 140  | 180  | 195  | 215  | 135  | 165  | 180  | 195  | 110  | 135  | 150  | 165  |                   |
| H8  | 44   | 55   | 60   | 65   | 42   | 50   | 60   | 65   | 34   | 42   | 47   | 50   |                   |
|     | 145  | 180  | 195  | 215  | 140  | 165  | 195  | 215  | 110  | 140  | 155  | 165  |                   |
| H11 | 55   | 65   | 75   | 85   | 50   | 65   | 70   | 80   | 42   | 50   | 60   | 65   |                   |
|     | 180  | 215  | 245  | 280  | 165  | 215  | 230  | 260  | 140  | 165  | 195  | 215  |                   |
| H12 | 80   | 95   | 110  | 120  | 75   | 90   | 105  | 115  | 60   | 75   | 85   | 90   |                   |
|     | 260  | 310  | 360  | 395  | 245  | 295  | 345  | 375  | 195  | 245  | 280  | 295  |                   |
| H21 | 44   | 55   | 60   | 65   | 42   | 50   | 60   | 65   | 34   | 42   | 47   | 50   |                   |
|     | 145  | 180  | 195  | 215  | 140  | 165  | 195  | 215  | 110  | 140  | 155  | 165  |                   |

### MM06 Z3-Copy milling – Insert selection – Roughing – mm/Inch

|                                 | SMG |                            | $a_p$         | $f_z$            |                  |                  |                  |
|---------------------------------|-----|----------------------------|---------------|------------------|------------------|------------------|------------------|
|                                 |     |                            |               | 100%             | 40%              | 20%              | 10%              |
| Universal                       | P1  | MM06-06007-B90A30-M02 F40M | 1,3<br>0,050  | 0,036<br>0,0014  | 0,034<br>0,0013  | 0,036<br>0,0014  | 0,048<br>0,0019  |
|                                 | P2  | MM06-06007-B90A30-M02 F40M | 1,3<br>0,050  | 0,036<br>0,0014  | 0,034<br>0,0013  | 0,036<br>0,0014  | 0,048<br>0,0019  |
| Steel and cast iron             | P3  | MM06-06007-B90A30-M02 F40M | 1,3<br>0,050  | 0,034<br>0,0013  | 0,034<br>0,0013  | 0,034<br>0,0013  | 0,046<br>0,0018  |
|                                 | P4  | MM06-06007-B90A30-M02 F40M | 1,3<br>0,050  | 0,034<br>0,0013  | 0,032<br>0,0013  | 0,034<br>0,0013  | 0,044<br>0,0017  |
|                                 | P5  | MM06-06007-B90A30-M02 F40M | 1,3<br>0,050  | 0,032<br>0,0013  | 0,032<br>0,0013  | 0,034<br>0,0013  | 0,044<br>0,0017  |
|                                 | P6  | MM06-06007-B90A30-M02 F40M | 1,3<br>0,050  | 0,032<br>0,0013  | 0,032<br>0,0013  | 0,034<br>0,0013  | 0,044<br>0,0017  |
|                                 | P7  | MM06-06007-B90A30-M02 F40M | 1,3<br>0,050  | 0,032<br>0,0013  | 0,032<br>0,0013  | 0,034<br>0,0013  | 0,044<br>0,0017  |
|                                 | P8  | MM06-06007-B90A30-M02 F40M | 1,3<br>0,050  | 0,032<br>0,0013  | 0,032<br>0,0013  | 0,034<br>0,0013  | 0,044<br>0,0018  |
| Stainless steel and S-materials | P11 | MM06-06007-B90A30-M02 F40M | 1,3<br>0,050  | 0,032<br>0,0013  | 0,032<br>0,0013  | 0,034<br>0,0013  | 0,044<br>0,0017  |
|                                 | P12 | MM06-06007-B90A30-M02 F40M | 1,0<br>0,040  | 0,024<br>0,00095 | 0,022<br>0,00085 | 0,024<br>0,00095 | 0,030<br>0,0012  |
|                                 | M1  | MM06-06007-B90A30-M02 F40M | 1,3<br>0,050  | 0,036<br>0,0014  | 0,034<br>0,0013  | 0,036<br>0,0014  | 0,048<br>0,0019  |
|                                 | M2  | MM06-06007-B90A30-M02 F40M | 1,3<br>0,050  | 0,032<br>0,0013  | 0,032<br>0,0013  | 0,034<br>0,0013  | 0,044<br>0,0017  |
| Non ferrous                     | M3  | MM06-06007-B90A30-M02 F40M | 1,0<br>0,040  | 0,028<br>0,0011  | 0,026<br>0,0010  | 0,028<br>0,0011  | 0,036<br>0,0014  |
|                                 | M4  | MM06-06007-B90A30-M02 F40M | 0,80<br>0,032 | 0,025<br>0,0010  | 0,025<br>0,0010  | 0,025<br>0,0010  | 0,030<br>0,0013  |
|                                 | M5  | MM06-06007-B90A30-M02 F40M | 0,80<br>0,032 | 0,025<br>0,0010  | 0,025<br>0,0010  | 0,025<br>0,0010  | 0,030<br>0,0013  |
|                                 | K1  | MM06-06007-B90A30-E02 F30M | 1,3<br>0,050  | 0,036<br>0,0014  | 0,034<br>0,0013  | 0,036<br>0,0014  | 0,048<br>0,0019  |
|                                 | K2  | MM06-06007-B90A30-E02 F30M | 1,3<br>0,050  | 0,032<br>0,0013  | 0,032<br>0,0013  | 0,034<br>0,0013  | 0,044<br>0,0017  |
| Hard                            | K3  | MM06-06007-B90A30-E02 F30M | 1,3<br>0,050  | 0,032<br>0,0013  | 0,032<br>0,0013  | 0,034<br>0,0013  | 0,044<br>0,0017  |
|                                 | K4  | MM06-06007-B90A30-E02 F30M | 1,3<br>0,050  | 0,032<br>0,0013  | 0,032<br>0,0013  | 0,034<br>0,0013  | 0,044<br>0,0017  |
|                                 | K5  | MM06-06007-B90A30-M02 F40M | 1,3<br>0,050  | 0,030<br>0,0012  | 0,028<br>0,0011  | 0,030<br>0,0012  | 0,040<br>0,0016  |
| Plastic and cfrp                | K6  | MM06-06007-B90A30-M02 F40M | 1,3<br>0,050  | 0,032<br>0,0013  | 0,032<br>0,0013  | 0,034<br>0,0013  | 0,044<br>0,0017  |
|                                 | K7  | MM06-06007-B90A30-M02 F40M | 1,3<br>0,050  | 0,030<br>0,0012  | 0,028<br>0,0011  | 0,030<br>0,0012  | 0,040<br>0,0016  |
|                                 | N1  | MM06-06007-B90A30-E02 F30M | 1,3<br>0,050  | 0,046<br>0,0018  | 0,044<br>0,0017  | 0,046<br>0,0018  | 0,060<br>0,0024  |
| Graphite                        | N2  | MM06-06007-B90A30-E02 F30M | 1,3<br>0,050  | 0,046<br>0,0018  | 0,044<br>0,0017  | 0,046<br>0,0018  | 0,060<br>0,0024  |
|                                 | N3  | MM06-06007-B90A30-E02 F30M | 1,3<br>0,050  | 0,046<br>0,0018  | 0,044<br>0,0017  | 0,046<br>0,0018  | 0,060<br>0,0024  |
|                                 | N11 | MM06-06007-B90A30-E02 F30M | 1,3<br>0,050  | 0,046<br>0,0018  | 0,044<br>0,0017  | 0,046<br>0,0018  | 0,060<br>0,0024  |
| X-Heads                         | S1  | MM06-06007-B90A30-M02 F40M | 0,80<br>0,032 | 0,025<br>0,0010  | 0,025<br>0,0010  | 0,025<br>0,0010  | 0,030<br>0,0013  |
|                                 | S2  | MM06-06007-B90A30-M02 F40M | 0,80<br>0,032 | 0,025<br>0,0010  | 0,025<br>0,0010  | 0,025<br>0,0010  | 0,030<br>0,0013  |
|                                 | S3  | MM06-06007-B90A30-M02 F40M | 0,80<br>0,032 | 0,024<br>0,00095 | 0,022<br>0,00085 | 0,022<br>0,00085 | 0,028<br>0,0012  |
| Minimaster                      | S11 | MM06-06007-B90A30-M02 F40M | 0,90<br>0,036 | 0,028<br>0,0011  | 0,028<br>0,0011  | 0,028<br>0,0011  | 0,036<br>0,0014  |
|                                 | S12 | MM06-06007-B90A30-M02 F40M | 0,90<br>0,036 | 0,028<br>0,0011  | 0,028<br>0,0011  | 0,028<br>0,0011  | 0,036<br>0,0014  |
|                                 | S13 | MM06-06007-B90A30-M02 F40M | 0,80<br>0,032 | 0,025<br>0,0010  | 0,025<br>0,0010  | 0,025<br>0,0010  | 0,030<br>0,0013  |
|                                 | H5  | MM06-06007-B90A30-E02 F30M | 1,0<br>0,040  | 0,024<br>0,00095 | 0,022<br>0,00085 | 0,024<br>0,00095 | 0,030<br>0,0012  |
|                                 | H8  | MM06-06007-B90A30-E02 F30M | 0,90<br>0,036 | 0,018<br>0,00070 | 0,018<br>0,00070 | 0,018<br>0,00070 | 0,022<br>0,00095 |
|                                 | H11 | MM06-06007-B90A30-E02 F30M | 1,0<br>0,040  | 0,024<br>0,00095 | 0,022<br>0,00085 | 0,024<br>0,00095 | 0,030<br>0,0012  |
|                                 | H12 | MM06-06007-B90A30-E02 F30M | 0,90<br>0,036 | 0,018<br>0,00070 | 0,018<br>0,00070 | 0,018<br>0,00070 | 0,022<br>0,00095 |
|                                 | H21 | MM06-06007-B90A30-E02 F30M | 0,90<br>0,036 | 0,018<br>0,00070 | 0,018<br>0,00070 | 0,018<br>0,00070 | 0,022<br>0,00095 |

SMG = Seco material group

$f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %

All cutting data are start values

**MM06 Z3-Copy milling – Insert selection – Finishing – mm/Inch**

| SMG |                            | $a_p$ | $f_z$   |         |        |        |                                 |
|-----|----------------------------|-------|---------|---------|--------|--------|---------------------------------|
|     |                            |       | 15%     | 10%     | 5%     | 2%     |                                 |
| P1  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,040   | 0,048   | 0,065  | 0,11   | Universal                       |
|     |                            | 0,050 | 0,0016  | 0,0019  | 0,0026 | 0,0044 |                                 |
| P2  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,040   | 0,048   | 0,065  | 0,11   | Steel and cast iron             |
|     |                            | 0,050 | 0,0016  | 0,0019  | 0,0026 | 0,0044 |                                 |
| P3  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,038   | 0,046   | 0,065  | 0,10   | Steel and cast iron             |
|     |                            | 0,050 | 0,0015  | 0,0018  | 0,0026 | 0,0040 |                                 |
| P4  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,038   | 0,044   | 0,060  | 0,10   | Steel and cast iron             |
|     |                            | 0,050 | 0,0015  | 0,0017  | 0,0024 | 0,0040 |                                 |
| P5  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,036   | 0,044   | 0,060  | 0,10   | Steel and cast iron             |
|     |                            | 0,050 | 0,0014  | 0,0017  | 0,0024 | 0,0040 |                                 |
| P6  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,036   | 0,044   | 0,060  | 0,10   | Steel and cast iron             |
|     |                            | 0,050 | 0,0014  | 0,0017  | 0,0024 | 0,0040 |                                 |
| P7  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,036   | 0,044   | 0,060  | 0,10   | Stainless steel and S-materials |
|     |                            | 0,050 | 0,0014  | 0,0017  | 0,0024 | 0,0040 |                                 |
| P8  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,038   | 0,046   | 0,065  | 0,10   | Stainless steel and S-materials |
|     |                            | 0,050 | 0,0015  | 0,0018  | 0,0026 | 0,0040 |                                 |
| P11 | MM06-06007-B90A30-E02 F30M | 1,3   | 0,036   | 0,044   | 0,060  | 0,10   | Stainless steel and S-materials |
|     |                            | 0,050 | 0,0014  | 0,0017  | 0,0024 | 0,0040 |                                 |
| P12 | MM06-06007-B90A30-E02 F30M | 1,0   | 0,026   | 0,030   | 0,042  | 0,065  | Stainless steel and S-materials |
|     |                            | 0,040 | 0,0010  | 0,0012  | 0,0017 | 0,0026 |                                 |
| M1  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,040   | 0,048   | 0,065  | 0,11   | Stainless steel and S-materials |
|     |                            | 0,050 | 0,0016  | 0,0019  | 0,0026 | 0,0044 |                                 |
| M2  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,036   | 0,044   | 0,060  | 0,10   | Stainless steel and S-materials |
|     |                            | 0,050 | 0,0014  | 0,0017  | 0,0024 | 0,0040 |                                 |
| M3  | MM06-06007-B90A30-E02 F30M | 1,0   | 0,030   | 0,036   | 0,048  | 0,080  | Stainless steel and S-materials |
|     |                            | 0,040 | 0,0012  | 0,0014  | 0,0019 | 0,0032 |                                 |
| M4  | MM06-06007-B90A30-E02 F30M | 0,80  | 0,026   | 0,030   | 0,042  | 0,070  | Stainless steel and S-materials |
|     |                            | 0,032 | 0,0010  | 0,0013  | 0,0017 | 0,0028 |                                 |
| M5  | MM06-06007-B90A30-E02 F30M | 0,80  | 0,026   | 0,030   | 0,042  | 0,070  | Stainless steel and S-materials |
|     |                            | 0,032 | 0,0010  | 0,0013  | 0,0017 | 0,0028 |                                 |
| K1  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,040   | 0,048   | 0,065  | 0,11   | Non ferrous                     |
|     |                            | 0,050 | 0,0016  | 0,0019  | 0,0026 | 0,0044 |                                 |
| K2  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,036   | 0,044   | 0,060  | 0,10   | Non ferrous                     |
|     |                            | 0,050 | 0,0014  | 0,0017  | 0,0024 | 0,0040 |                                 |
| K3  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,036   | 0,044   | 0,060  | 0,10   | Non ferrous                     |
|     |                            | 0,050 | 0,0014  | 0,0017  | 0,0024 | 0,0040 |                                 |
| K4  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,036   | 0,044   | 0,060  | 0,10   | Non ferrous                     |
|     |                            | 0,050 | 0,0014  | 0,0017  | 0,0024 | 0,0040 |                                 |
| K5  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,034   | 0,040   | 0,055  | 0,090  | Non ferrous                     |
|     |                            | 0,050 | 0,0013  | 0,0016  | 0,0022 | 0,0036 |                                 |
| K6  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,036   | 0,044   | 0,060  | 0,10   | Non ferrous                     |
|     |                            | 0,050 | 0,0014  | 0,0017  | 0,0024 | 0,0040 |                                 |
| K7  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,034   | 0,040   | 0,055  | 0,090  | Hard                            |
|     |                            | 0,050 | 0,0013  | 0,0016  | 0,0022 | 0,0036 |                                 |
| N1  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,050   | 0,060   | 0,085  | 0,14   | Hard                            |
|     |                            | 0,050 | 0,0020  | 0,0024  | 0,0034 | 0,0055 |                                 |
| N2  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,050   | 0,060   | 0,085  | 0,14   | Hard                            |
|     |                            | 0,050 | 0,0020  | 0,0024  | 0,0034 | 0,0055 |                                 |
| N3  | MM06-06007-B90A30-E02 F30M | 1,3   | 0,050   | 0,060   | 0,085  | 0,14   | Hard                            |
|     |                            | 0,050 | 0,0020  | 0,0024  | 0,0034 | 0,0055 |                                 |
| N11 | MM06-06007-B90A30-E02 F30M | 1,3   | 0,050   | 0,060   | 0,085  | 0,14   | Graphite                        |
|     |                            | 0,050 | 0,0020  | 0,0024  | 0,0034 | 0,0055 |                                 |
| S1  | MM06-06007-B90A30-E02 F30M | 0,80  | 0,026   | 0,030   | 0,042  | 0,070  | Graphite                        |
|     |                            | 0,032 | 0,0010  | 0,0013  | 0,0017 | 0,0028 |                                 |
| S2  | MM06-06007-B90A30-E02 F30M | 0,80  | 0,026   | 0,030   | 0,042  | 0,070  | Graphite                        |
|     |                            | 0,032 | 0,0010  | 0,0013  | 0,0017 | 0,0028 |                                 |
| S3  | MM06-06007-B90A30-E02 F30M | 0,80  | 0,025   | 0,028   | 0,040  | 0,065  | Graphite                        |
|     |                            | 0,032 | 0,0010  | 0,0012  | 0,0016 | 0,0026 |                                 |
| S11 | MM06-06007-B90A30-E02 F30M | 0,90  | 0,030   | 0,036   | 0,048  | 0,080  | Graphite                        |
|     |                            | 0,036 | 0,0012  | 0,0014  | 0,0019 | 0,0032 |                                 |
| S12 | MM06-06007-B90A30-E02 F30M | 0,90  | 0,030   | 0,036   | 0,048  | 0,080  | X-Heads                         |
|     |                            | 0,036 | 0,0012  | 0,0014  | 0,0019 | 0,0032 |                                 |
| S13 | MM06-06007-B90A30-E02 F30M | 0,80  | 0,026   | 0,030   | 0,042  | 0,070  | X-Heads                         |
|     |                            | 0,032 | 0,0010  | 0,0013  | 0,0017 | 0,0028 |                                 |
| H5  | MM06-06007-B90A30-E02 F30M | 1,0   | 0,026   | 0,030   | 0,042  | 0,065  | Minimaster                      |
|     |                            | 0,040 | 0,0010  | 0,0012  | 0,0017 | 0,0026 |                                 |
| H8  | MM06-06007-B90A30-E02 F30M | 0,90  | 0,020   | 0,022   | 0,032  | 0,050  | Minimaster                      |
|     |                            | 0,036 | 0,00080 | 0,00095 | 0,0013 | 0,0020 |                                 |
| H11 | MM06-06007-B90A30-E02 F30M | 1,0   | 0,026   | 0,030   | 0,042  | 0,065  | Minimaster                      |
|     |                            | 0,040 | 0,0010  | 0,0012  | 0,0017 | 0,0026 |                                 |
| H12 | MM06-06007-B90A30-E02 F30M | 0,90  | 0,020   | 0,022   | 0,032  | 0,050  | Minimaster                      |
|     |                            | 0,036 | 0,00080 | 0,00095 | 0,0013 | 0,0020 |                                 |
| H21 | MM06-06007-B90A30-E02 F30M | 0,90  | 0,020   | 0,022   | 0,032  | 0,050  | Minimaster                      |
|     |                            | 0,036 | 0,00080 | 0,00095 | 0,0013 | 0,0020 |                                 |

SMG = Seco material group

 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e/DC$  = %

All cutting data are start values

MM06 Z3-Copy milling – Cutting data  $v_c = (m/min)/(sf/min)$ 

|                                 | SMG | F30M |      |      |      |      | F40M |      |      |      |      |
|---------------------------------|-----|------|------|------|------|------|------|------|------|------|------|
|                                 |     | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   |
| Universal                       | P1  | 295  | 350  | 370  | 405  | 400  | 280  | 330  | 355  | 385  | 380  |
|                                 |     | 970  | 1150 | 1225 | 1325 | 1300 | 920  | 1075 | 1175 | 1275 | 1250 |
| Steel and cast iron             | P2  | 285  | 340  | 360  | 395  | 390  | 275  | 325  | 345  | 375  | 370  |
|                                 |     | 940  | 1125 | 1175 | 1300 | 1275 | 900  | 1075 | 1125 | 1225 | 1225 |
|                                 | P3  | 250  | 295  | 315  | 340  | 340  | 235  | 280  | 300  | 320  | 325  |
|                                 |     | 820  | 970  | 1025 | 1125 | 1125 | 770  | 920  | 980  | 1050 | 1075 |
|                                 | P4  | 220  | 260  | 275  | 300  | 300  | 210  | 245  | 265  | 285  | 285  |
|                                 |     | 720  | 850  | 900  | 980  | 980  | 690  | 800  | 870  | 940  | 940  |
|                                 | P5  | 210  | 245  | 265  | 285  | 285  | 200  | 235  | 250  | 275  | 270  |
|                                 |     | 690  | 800  | 870  | 940  | 940  | 660  | 770  | 820  | 900  | 890  |
|                                 | P6  | 235  | 275  | 295  | 320  | 320  | 225  | 265  | 285  | 305  | 305  |
|                                 |     | 770  | 900  | 970  | 1050 | 1050 | 740  | 870  | 940  | 1000 | 1000 |
|                                 | P7  | 225  | 260  | 280  | 305  | 300  | 210  | 250  | 265  | 290  | 285  |
|                                 |     | 740  | 850  | 920  | 1000 | 980  | 690  | 820  | 870  | 950  | 940  |
| Stainless steel and S-materials | P8  | 210  | 245  | 265  | 285  | 285  | 200  | 235  | 250  | 270  | 270  |
|                                 |     | 690  | 800  | 870  | 940  | 940  | 660  | 770  | 820  | 890  | 890  |
|                                 | P11 | 215  | 255  | 270  | 295  | 295  | 205  | 240  | 260  | 280  | 280  |
|                                 |     | 710  | 840  | 890  | 970  | 970  | 670  | 790  | 850  | 920  | 920  |
|                                 | P12 | 135  | 160  | 165  | 180  | 180  | 125  | 150  | 160  | 170  | 170  |
|                                 |     | 445  | 520  | 560  | 590  | 590  | 410  | 490  | 520  | 560  | 560  |
| Non ferrous                     | M1  | 230  | 275  | 290  | 315  | 315  | 220  | 260  | 280  | 300  | 300  |
|                                 |     | 750  | 900  | 950  | 1025 | 1025 | 720  | 850  | 920  | 980  | 980  |
|                                 | M2  | 190  | 220  | 240  | 260  | 255  | 180  | 210  | 225  | 245  | 245  |
|                                 |     | 620  | 720  | 790  | 850  | 840  | 590  | 690  | 740  | 800  | 800  |
|                                 | M3  | 150  | 180  | 185  | 200  | 200  | 140  | 170  | 175  | 190  | 190  |
|                                 |     | 490  | 590  | 610  | 660  | 660  | 460  | 560  | 590  | 620  | 620  |
|                                 | M4  | 105  | 145  | 140  | 150  | 150  | 100  | 135  | 135  | 145  | 145  |
|                                 |     | 345  | 475  | 490  | 490  | 490  | 330  | 445  | 460  | 475  | 475  |
|                                 | M5  | 85   | 120  | 115  | 125  | 125  | 85   | 115  | 110  | 120  | 120  |
|                                 |     | 280  | 395  | 410  | 410  | 410  | 280  | 375  | 395  | 395  | 395  |
| Hard                            | K1  | 230  | 270  | 285  | 310  | 310  | 215  | 255  | 275  | 295  | 295  |
|                                 |     | 750  | 890  | 940  | 1025 | 1025 | 710  | 840  | 900  | 970  | 970  |
|                                 | K2  | 200  | 235  | 250  | 270  | 270  | 190  | 225  | 240  | 260  | 255  |
|                                 |     | 660  | 770  | 820  | 890  | 890  | 620  | 740  | 790  | 850  | 840  |
|                                 | K3  | 170  | 200  | 210  | 230  | 230  | 160  | 190  | 200  | 220  | 220  |
|                                 |     | 560  | 660  | 690  | 750  | 750  | 520  | 620  | 660  | 720  | 720  |
|                                 | K4  | 160  | 190  | 205  | 220  | 220  | 155  | 180  | 195  | 210  | 210  |
|                                 |     | 520  | 620  | 670  | 720  | 720  | 510  | 590  | 640  | 690  | 690  |
|                                 | K5  | 95   | 115  | 120  | 130  | 130  | 90   | 110  | 115  | 125  | 125  |
|                                 |     | 310  | 375  | 395  | 425  | 425  | 295  | 360  | 375  | 410  | 410  |
|                                 | K6  | 140  | 165  | 180  | 195  | 190  | 135  | 160  | 170  | 185  | 185  |
|                                 |     | 460  | 540  | 590  | 640  | 620  | 445  | 520  | 560  | 610  | 610  |
|                                 | K7  | 125  | 145  | 155  | 170  | 170  | 120  | 140  | 150  | 160  | 160  |
|                                 |     | 410  | 475  | 510  | 560  | 560  | 395  | 460  | 490  | 520  | 520  |
|                                 | N1  | 1750 | 2075 | 2200 | 2375 | 2375 | 1675 | 1975 | 2100 | 2275 | 2250 |
|                                 |     | 5750 | 6800 | 7225 | 7800 | 7800 | 5500 | 6475 | 6900 | 7475 | 7375 |
| Graphite                        | N2  | 710  | 830  | 890  | 960  | 950  | 670  | 790  | 850  | 920  | 910  |
|                                 |     | 2325 | 2725 | 2925 | 3150 | 3125 | 2200 | 2600 | 2800 | 3025 | 2975 |
|                                 | N3  | 470  | 560  | 590  | 640  | 640  | 450  | 530  | 570  | 610  | 610  |
|                                 |     | 1550 | 1825 | 1925 | 2100 | 2100 | 1475 | 1750 | 1875 | 2000 | 2000 |
|                                 | N11 | 540  | 630  | 680  | 730  | 730  | 510  | 600  | 650  | 700  | 690  |
|                                 |     | 1775 | 2075 | 2225 | 2400 | 2400 | 1675 | 1975 | 2125 | 2300 | 2275 |
| X-Heads                         | S1  | 49   | 65   | 65   | 70   | 70   | 46   | 65   | 65   | 70   | 65   |
|                                 |     | 160  | 215  | 230  | 230  | 230  | 150  | 215  | 215  | 230  | 215  |
|                                 | S2  | 39   | 55   | 55   | 55   | 55   | 37   | 50   | 50   | 55   | 55   |
|                                 |     | 130  | 180  | 180  | 180  | 180  | 120  | 165  | 180  | 180  | 180  |
|                                 | S3  | 34   | 47   | 46   | 50   | 49   | 32   | 44   | 44   | 47   | 47   |
|                                 |     | 110  | 155  | 155  | 165  | 160  | 105  | 145  | 150  | 155  | 155  |
|                                 | S11 | 75   | 95   | 95   | 100  | 100  | 70   | 90   | 90   | 95   | 95   |
|                                 |     | 245  | 310  | 310  | 330  | 330  | 230  | 295  | 295  | 310  | 310  |
|                                 | S12 | 50   | 65   | 65   | 70   | 70   | 48   | 60   | 60   | 65   | 65   |
|                                 |     | 165  | 215  | 215  | 230  | 230  | 155  | 195  | 215  | 215  | 215  |
|                                 | S13 | 27   | 38   | 37   | 40   | 40   | 26   | 36   | 35   | 38   | 38   |
|                                 |     | 90   | 125  | 130  | 130  | 130  | 85   | 120  | 120  | 125  | 125  |
| Minimaster                      | H5  | 44   | 55   | 55   | 60   | 60   | 42   | 50   | 55   | 55   | 55   |
|                                 |     | 145  | 180  | 180  | 195  | 195  | 140  | 165  | 180  | 180  | 180  |
|                                 | H8  | 44   | 55   | 55   | 60   | 60   | 42   | 55   | 55   | 60   | 60   |
|                                 |     | 145  | 180  | 195  | 195  | 195  | 140  | 180  | 180  | 195  | 195  |
|                                 | H11 | 55   | 70   | 70   | 75   | 75   | 55   | 65   | 65   | 70   | 75   |
|                                 |     | 180  | 230  | 230  | 245  | 245  | 180  | 215  | 230  | 230  | 245  |
|                                 | H12 | 80   | 100  | 100  | 110  | 110  | 75   | 95   | 95   | 105  | 105  |
|                                 |     | 260  | 330  | 345  | 360  | 360  | 245  | 310  | 330  | 345  | 345  |
|                                 | H21 | 44   | 55   | 55   | 60   | 60   | 42   | 55   | 55   | 60   | 60   |
|                                 |     | 145  | 180  | 195  | 195  | 195  | 140  | 180  | 180  | 195  | 195  |

**MM06 Z2-Copy milling – Insert selection – Roughing – mm/Inch**

| SMG |                          | $a_p$ | $f_z$   |         |         |         |
|-----|--------------------------|-------|---------|---------|---------|---------|
|     |                          |       | 100%    | 40%     | 20%     | 10%     |
| P1  | MM06-06006-B90S-E02 F30M | 2,5   | 0,030   | 0,032   | 0,036   | 0,048   |
|     |                          | 0.10  | 0.0012  | 0.0013  | 0.0014  | 0.0019  |
| P2  | MM06-06006-B90S-E02 F30M | 2,5   | 0,032   | 0,032   | 0,036   | 0,048   |
|     |                          | 0.10  | 0.0013  | 0.0013  | 0.0014  | 0.0019  |
| P3  | MM06-06006-B90S-E02 F30M | 2,5   | 0,030   | 0,030   | 0,034   | 0,046   |
|     |                          | 0.10  | 0.0012  | 0.0012  | 0.0013  | 0.0018  |
| P4  | MM06-06006-B90-MD02 F30M | 2,5   | 0,030   | 0,030   | 0,034   | 0,044   |
|     |                          | 0.10  | 0.0012  | 0.0012  | 0.0013  | 0.0017  |
| P5  | MM06-06006-B90-MD02 F30M | 2,5   | 0,028   | 0,028   | 0,034   | 0,044   |
|     |                          | 0.10  | 0.0011  | 0.0011  | 0.0013  | 0.0017  |
| P6  | MM06-06006-B90-MD02 F30M | 2,5   | 0,028   | 0,028   | 0,032   | 0,044   |
|     |                          | 0.10  | 0.0011  | 0.0011  | 0.0013  | 0.0017  |
| P7  | MM06-06006-B90-MD02 F30M | 2,5   | 0,028   | 0,028   | 0,032   | 0,044   |
|     |                          | 0.10  | 0.0011  | 0.0011  | 0.0013  | 0.0017  |
| P8  | MM06-06006-B90-MD02 F30M | 2,5   | 0,030   | 0,030   | 0,034   | 0,046   |
|     |                          | 0.10  | 0.0012  | 0.0012  | 0.0013  | 0.0018  |
| P11 | MM06-06006-B90-MD02 F30M | 2,5   | 0,028   | 0,028   | 0,032   | 0,044   |
|     |                          | 0.10  | 0.0011  | 0.0011  | 0.0013  | 0.0017  |
| P12 | MM06-06006-B90-MD02 F30M | 2,0   | 0,020   | 0,020   | 0,024   | 0,030   |
|     |                          | 0.080 | 0.00080 | 0.00080 | 0.00095 | 0.0012  |
| M1  | MM06-06006-B90S-E02 F30M | 2,5   | 0,032   | 0,032   | 0,036   | 0,048   |
|     |                          | 0.10  | 0.0013  | 0.0013  | 0.0014  | 0.0019  |
| M2  | MM06-06006-B90S-E02 F30M | 2,5   | 0,028   | 0,028   | 0,034   | 0,044   |
|     |                          | 0.10  | 0.0011  | 0.0011  | 0.0013  | 0.0017  |
| M3  | MM06-06006-B90S-E02 F30M | 2,0   | 0,024   | 0,024   | 0,028   | 0,036   |
|     |                          | 0.080 | 0.00095 | 0.00095 | 0.0011  | 0.0014  |
| M4  | MM06-06006-B90-MD02 F30M | 1,5   | 0,022   | 0,022   | 0,024   | 0,030   |
|     |                          | 0.060 | 0.00085 | 0.00085 | 0.00095 | 0.0013  |
| M5  | MM06-06006-B90-MD02 F30M | 1,5   | 0,022   | 0,022   | 0,024   | 0,030   |
|     |                          | 0.060 | 0.00085 | 0.00085 | 0.00095 | 0.0013  |
| K1  | MM06-06006-B90S-E02 F30M | 2,5   | 0,032   | 0,032   | 0,036   | 0,048   |
|     |                          | 0.10  | 0.0013  | 0.0013  | 0.0014  | 0.0019  |
| K2  | MM06-06006-B90S-E02 F30M | 2,5   | 0,028   | 0,028   | 0,034   | 0,044   |
|     |                          | 0.10  | 0.0011  | 0.0011  | 0.0013  | 0.0017  |
| K3  | MM06-06006-B90S-E02 F30M | 2,5   | 0,028   | 0,028   | 0,034   | 0,044   |
|     |                          | 0.10  | 0.0011  | 0.0011  | 0.0013  | 0.0017  |
| K4  | MM06-06006-B90S-E02 F30M | 2,5   | 0,028   | 0,028   | 0,034   | 0,044   |
|     |                          | 0.10  | 0.0011  | 0.0011  | 0.0013  | 0.0017  |
| K5  | MM06-06006-B90S-E02 F30M | 2,5   | 0,026   | 0,026   | 0,030   | 0,040   |
|     |                          | 0.10  | 0.0010  | 0.0010  | 0.0012  | 0.0016  |
| K6  | MM06-06006-B90-MD02 F30M | 2,5   | 0,028   | 0,028   | 0,034   | 0,044   |
|     |                          | 0.10  | 0.0011  | 0.0011  | 0.0013  | 0.0017  |
| K7  | MM06-06006-B90-MD02 F30M | 2,5   | 0,026   | 0,026   | 0,030   | 0,040   |
|     |                          | 0.10  | 0.0010  | 0.0010  | 0.0012  | 0.0016  |
| N1  | MM06-06006-B90S-E02 F30M | 2,5   | 0,040   | 0,040   | 0,046   | 0,060   |
|     |                          | 0.10  | 0.0016  | 0.0016  | 0.0018  | 0.0024  |
| N2  | MM06-06006-B90S-E02 F30M | 2,5   | 0,040   | 0,040   | 0,046   | 0,060   |
|     |                          | 0.10  | 0.0016  | 0.0016  | 0.0018  | 0.0024  |
| N3  | MM06-06006-B90S-E02 F30M | 2,5   | 0,040   | 0,040   | 0,046   | 0,060   |
|     |                          | 0.10  | 0.0016  | 0.0016  | 0.0018  | 0.0024  |
| N11 | MM06-06006-B90S-E02 F30M | 2,5   | 0,040   | 0,040   | 0,046   | 0,060   |
|     |                          | 0.10  | 0.0016  | 0.0016  | 0.0018  | 0.0024  |
| S1  | MM06-06006-B90-MD02 F30M | 1,5   | 0,022   | 0,022   | 0,024   | 0,030   |
|     |                          | 0.060 | 0.00085 | 0.00085 | 0.00095 | 0.0013  |
| S2  | MM06-06006-B90-MD02 F30M | 1,5   | 0,022   | 0,022   | 0,024   | 0,030   |
|     |                          | 0.060 | 0.00085 | 0.00085 | 0.00095 | 0.0013  |
| S3  | MM06-06006-B90-MD02 F30M | 1,5   | 0,020   | 0,020   | 0,022   | 0,028   |
|     |                          | 0.060 | 0.00080 | 0.00080 | 0.00085 | 0.0012  |
| S11 | MM06-06006-B90-MD02 F30M | 1,7   | 0,025   | 0,024   | 0,028   | 0,036   |
|     |                          | 0.065 | 0.0010  | 0.00095 | 0.0011  | 0.0014  |
| S12 | MM06-06006-B90-MD02 F30M | 1,7   | 0,025   | 0,024   | 0,028   | 0,036   |
|     |                          | 0.065 | 0.0010  | 0.00095 | 0.0011  | 0.0014  |
| S13 | MM06-06006-B90-MD02 F30M | 1,5   | 0,022   | 0,022   | 0,024   | 0,030   |
|     |                          | 0.060 | 0.00085 | 0.00085 | 0.00095 | 0.0013  |
| H5  | MM06-06006-B90-MD02 F30M | 2,0   | 0,020   | 0,020   | 0,024   | 0,030   |
|     |                          | 0.080 | 0.00080 | 0.00080 | 0.00095 | 0.0012  |
| H8  | MM06-06006-B90-MD02 F30M | 1,7   | 0,016   | 0,016   | 0,018   | 0,022   |
|     |                          | 0.065 | 0.00065 | 0.00065 | 0.00070 | 0.00095 |
| H11 | MM06-06006-B90-MD02 F30M | 2,0   | 0,020   | 0,020   | 0,024   | 0,030   |
|     |                          | 0.080 | 0.00080 | 0.00080 | 0.00095 | 0.0012  |
| H12 | MM06-06006-B90-MD02 F30M | 1,7   | 0,016   | 0,016   | 0,018   | 0,022   |
|     |                          | 0.065 | 0.00065 | 0.00065 | 0.00070 | 0.00095 |
| H21 | MM06-06006-B90-MD02 F30M | 1,7   | 0,016   | 0,016   | 0,018   | 0,022   |
|     |                          | 0.065 | 0.00065 | 0.00065 | 0.00070 | 0.00095 |

SMG = Seco material group  
 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %  
 All cutting data are start values

Universal  
Steel and cast iron  
Stainless steel and S-materials  
Stainless steel and S-materials  
Non ferrous  
Hard  
Graphite  
X-Heads  
Minimaster

### MM06 Z2-Copy milling – Insert selection – Finishing – mm/Inch

|                                 | SMG |                           | $a_p$        | $f_z$            |                  |                  |                 |
|---------------------------------|-----|---------------------------|--------------|------------------|------------------|------------------|-----------------|
|                                 |     |                           |              | 15%              | 10%              | 5%               | 2%              |
| Universal                       | P1  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,020<br>0,00080 | 0,024<br>0,00095 | 0,034<br>0,0013  | 0,055<br>0,0022 |
|                                 | P2  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,020<br>0,00080 | 0,024<br>0,00095 | 0,034<br>0,0013  | 0,055<br>0,0022 |
| Steel and cast iron             | P3  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,020<br>0,00080 | 0,024<br>0,00095 | 0,032<br>0,0013  | 0,050<br>0,0020 |
|                                 | P4  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,019<br>0,00075 | 0,022<br>0,00085 | 0,032<br>0,0013  | 0,050<br>0,0020 |
|                                 | P5  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,019<br>0,00075 | 0,022<br>0,00085 | 0,030<br>0,0012  | 0,048<br>0,0019 |
|                                 | P6  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,019<br>0,00075 | 0,022<br>0,00085 | 0,030<br>0,0012  | 0,048<br>0,0019 |
|                                 | P7  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,019<br>0,00075 | 0,022<br>0,00085 | 0,030<br>0,0012  | 0,048<br>0,0019 |
|                                 | P8  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,020<br>0,00080 | 0,024<br>0,00095 | 0,032<br>0,0013  | 0,050<br>0,0020 |
| Stainless steel and S-materials | P11 | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,019<br>0,00075 | 0,022<br>0,00085 | 0,030<br>0,0012  | 0,048<br>0,0019 |
|                                 | P12 | MM06-06006-B90PF-M01 F15M | 1,7<br>0,065 | 0,013<br>0,00050 | 0,015<br>0,00060 | 0,020<br>0,00080 | 0,032<br>0,0013 |
|                                 | M1  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,020<br>0,00080 | 0,024<br>0,00095 | 0,034<br>0,0013  | 0,055<br>0,0022 |
|                                 | M2  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,019<br>0,00075 | 0,022<br>0,00085 | 0,030<br>0,0012  | 0,048<br>0,0019 |
| Non ferrous                     | M3  | MM06-06006-B90PF-M01 F15M | 1,7<br>0,065 | 0,015<br>0,00060 | 0,018<br>0,00070 | 0,025<br>0,0010  | 0,038<br>0,0015 |
|                                 | M4  | MM06-06006-B90PF-M01 F15M | 1,2<br>0,048 | 0,014<br>0,00055 | 0,016<br>0,00065 | 0,022<br>0,00085 | 0,034<br>0,0013 |
|                                 | M5  | MM06-06006-B90PF-M01 F15M | 1,2<br>0,048 | 0,014<br>0,00055 | 0,016<br>0,00065 | 0,022<br>0,00085 | 0,034<br>0,0013 |
|                                 | K1  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,020<br>0,00080 | 0,024<br>0,00095 | 0,034<br>0,0013  | 0,055<br>0,0022 |
|                                 | K2  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,019<br>0,00075 | 0,022<br>0,00085 | 0,030<br>0,0012  | 0,048<br>0,0019 |
| Hard                            | K3  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,019<br>0,00075 | 0,022<br>0,00085 | 0,030<br>0,0012  | 0,048<br>0,0019 |
|                                 | K4  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,019<br>0,00075 | 0,022<br>0,00085 | 0,030<br>0,0012  | 0,048<br>0,0019 |
|                                 | K5  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,017<br>0,00065 | 0,020<br>0,00080 | 0,028<br>0,0011  | 0,044<br>0,0017 |
|                                 | K6  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,019<br>0,00075 | 0,022<br>0,00085 | 0,030<br>0,0012  | 0,048<br>0,0019 |
|                                 | K7  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,017<br>0,00065 | 0,020<br>0,00080 | 0,028<br>0,0011  | 0,044<br>0,0017 |
| Plastic and cfrp                | N1  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,026<br>0,0010  | 0,032<br>0,0013  | 0,044<br>0,0017  | 0,070<br>0,0028 |
|                                 | N2  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,026<br>0,0010  | 0,032<br>0,0013  | 0,044<br>0,0017  | 0,070<br>0,0028 |
|                                 | N3  | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,026<br>0,0010  | 0,032<br>0,0013  | 0,044<br>0,0017  | 0,070<br>0,0028 |
|                                 | N11 | MM06-06006-B90PF-M01 F15M | 2,0<br>0,080 | 0,026<br>0,0010  | 0,032<br>0,0013  | 0,044<br>0,0017  | 0,070<br>0,0028 |
| Graphite                        | S1  | MM06-06006-B90PF-M01 F15M | 1,2<br>0,048 | 0,014<br>0,00055 | 0,016<br>0,00065 | 0,022<br>0,00085 | 0,034<br>0,0013 |
|                                 | S2  | MM06-06006-B90PF-M01 F15M | 1,2<br>0,048 | 0,014<br>0,00055 | 0,016<br>0,00065 | 0,022<br>0,00085 | 0,034<br>0,0013 |
|                                 | S3  | MM06-06006-B90PF-M01 F15M | 1,2<br>0,048 | 0,013<br>0,00050 | 0,014<br>0,00060 | 0,020<br>0,00080 | 0,032<br>0,0013 |
|                                 | S11 | MM06-06006-B90PF-M01 F15M | 1,5<br>0,060 | 0,015<br>0,00060 | 0,018<br>0,00070 | 0,025<br>0,0010  | 0,038<br>0,0015 |
| X-Heads                         | S12 | MM06-06006-B90PF-M01 F15M | 1,5<br>0,060 | 0,015<br>0,00060 | 0,018<br>0,00070 | 0,025<br>0,0010  | 0,038<br>0,0015 |
|                                 | S13 | MM06-06006-B90PF-M01 F15M | 1,2<br>0,048 | 0,014<br>0,00055 | 0,016<br>0,00065 | 0,022<br>0,00085 | 0,034<br>0,0013 |
|                                 | H5  | MM06-06006-B90PF-M01 F15M | 1,7<br>0,065 | 0,013<br>0,00050 | 0,015<br>0,00060 | 0,020<br>0,00080 | 0,032<br>0,0013 |
|                                 | H8  | MM06-06006-B90PF-M01 F15M | 1,5<br>0,060 | 0,010<br>0,00040 | 0,012<br>0,00048 | 0,016<br>0,00065 | 0,025<br>0,0010 |
| Minimaster                      | H11 | MM06-06006-B90PF-M01 F15M | 1,7<br>0,065 | 0,013<br>0,00050 | 0,015<br>0,00060 | 0,020<br>0,00080 | 0,032<br>0,0013 |
|                                 | H12 | MM06-06006-B90PF-M01 F15M | 1,5<br>0,060 | 0,010<br>0,00040 | 0,012<br>0,00048 | 0,016<br>0,00065 | 0,025<br>0,0010 |
|                                 | H21 | MM06-06006-B90PF-M01 F15M | 1,5<br>0,060 | 0,010<br>0,00040 | 0,012<br>0,00048 | 0,016<br>0,00065 | 0,025<br>0,0010 |

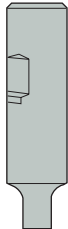
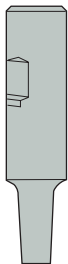
SMG = Seco material group  
 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %  
 All cutting data are start values



### MM06 Z2-Copy milling – Cutting data $v_c = (m/min)/(sf/min)$

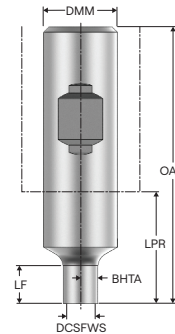
| SMG | F15M |      |      |      |      | F30M |      |      |      |      | T60M |      |      |      |      |                                 |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------------------------|
|     | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   |                                 |
| P1  | 325  | 415  | 430  | 470  | 465  | 275  | 345  | 375  | 405  | 405  | 225  | 280  | 305  | 330  | 325  | Universal                       |
|     | 1075 | 1350 | 1400 | 1550 | 1525 | 900  | 1125 | 1225 | 1325 | 1325 | 740  | 920  | 1000 | 1075 | 1075 |                                 |
| P2  | 320  | 400  | 420  | 455  | 455  | 265  | 335  | 365  | 395  | 395  | 215  | 270  | 295  | 320  | 320  | Steel and cast iron             |
|     | 1050 | 1300 | 1375 | 1500 | 1500 | 870  | 1100 | 1200 | 1300 | 1300 | 710  | 890  | 970  | 1050 | 1050 |                                 |
| P3  | 275  | 345  | 360  | 395  | 395  | 230  | 290  | 315  | 340  | 340  | 190  | 235  | 255  | 275  | 275  | Steel and cast iron             |
|     | 900  | 1125 | 1175 | 1300 | 1300 | 750  | 950  | 1025 | 1125 | 1125 | 620  | 770  | 840  | 900  | 900  |                                 |
| P4  | 240  | 305  | 320  | 345  | 345  | 205  | 255  | 280  | 305  | 300  | 165  | 205  | 225  | 245  | 245  | Steel and cast iron             |
|     | 790  | 1000 | 1050 | 1125 | 1125 | 670  | 840  | 920  | 1000 | 980  | 540  | 670  | 740  | 800  | 800  |                                 |
| P5  | 230  | 290  | 305  | 330  | 330  | 195  | 245  | 265  | 290  | 290  | 160  | 200  | 215  | 235  | 235  | Steel and cast iron             |
|     | 750  | 950  | 1000 | 1075 | 1075 | 640  | 800  | 870  | 950  | 950  | 520  | 660  | 710  | 770  | 770  |                                 |
| P6  | 260  | 330  | 345  | 370  | 370  | 220  | 275  | 300  | 325  | 325  | 180  | 225  | 245  | 265  | 260  | Steel and cast iron             |
|     | 850  | 1075 | 1125 | 1225 | 1225 | 720  | 900  | 980  | 1075 | 1075 | 590  | 740  | 800  | 870  | 850  |                                 |
| P7  | 245  | 310  | 325  | 350  | 350  | 210  | 260  | 285  | 305  | 305  | 170  | 210  | 230  | 250  | 245  | Stainless steel and S-materials |
|     | 800  | 1025 | 1075 | 1150 | 1150 | 690  | 850  | 940  | 1000 | 1000 | 560  | 690  | 750  | 820  | 800  |                                 |
| P8  | 230  | 290  | 305  | 330  | 330  | 195  | 245  | 265  | 285  | 290  | 160  | 200  | 215  | 230  | 235  | Stainless steel and S-materials |
|     | 750  | 950  | 1000 | 1075 | 1075 | 640  | 800  | 870  | 940  | 950  | 520  | 660  | 710  | 750  | 770  |                                 |
| P11 | 240  | 300  | 315  | 340  | 340  | 200  | 255  | 275  | 300  | 295  | 165  | 205  | 220  | 240  | 240  | Stainless steel and S-materials |
|     | 790  | 980  | 1025 | 1125 | 1125 | 660  | 840  | 900  | 980  | 970  | 540  | 670  | 720  | 790  | 790  |                                 |
| P12 | 145  | 185  | 190  | 205  | 205  | 130  | 160  | 170  | 180  | 180  | 105  | 130  | 135  | 145  | 145  | Stainless steel and S-materials |
|     | 475  | 610  | 620  | 670  | 670  | 425  | 520  | 560  | 590  | 590  | 345  | 425  | 445  | 475  | 475  |                                 |
| M1  | 255  | 325  | 340  | 365  | 365  | 215  | 270  | 295  | 320  | 315  | 175  | 220  | 240  | 260  | 255  | Stainless steel and S-materials |
|     | 840  | 1075 | 1125 | 1200 | 1200 | 710  | 890  | 970  | 1050 | 1025 | 570  | 720  | 790  | 850  | 840  |                                 |
| M2  | 210  | 265  | 275  | 300  | 300  | 175  | 220  | 240  | 260  | 260  | 145  | 180  | 195  | 210  | 210  | Stainless steel and S-materials |
|     | 690  | 870  | 900  | 980  | 980  | 570  | 720  | 790  | 850  | 850  | 475  | 590  | 640  | 690  | 690  |                                 |
| M3  | 165  | 210  | 210  | 230  | 230  | 140  | 180  | 185  | 205  | 200  | 115  | 145  | 150  | 165  | 165  | Stainless steel and S-materials |
|     | 540  | 690  | 710  | 750  | 750  | 460  | 590  | 620  | 670  | 660  | 375  | 475  | 510  | 540  | 540  |                                 |
| M4  | 125  | 160  | 160  | 170  | 170  | 110  | 140  | 140  | 155  | 155  | 90   | 115  | 115  | 125  | 125  | Stainless steel and S-materials |
|     | 410  | 520  | 560  | 560  | 560  | 360  | 460  | 490  | 510  | 510  | 295  | 375  | 395  | 410  | 410  |                                 |
| M5  | 105  | 135  | 130  | 145  | 145  | 95   | 120  | 120  | 130  | 130  | 75   | 95   | 95   | 105  | 105  | Non ferrous                     |
|     | 345  | 445  | 475  | 475  | 475  | 310  | 395  | 410  | 425  | 425  | 245  | 310  | 330  | 345  | 345  |                                 |
| K1  | 250  | 320  | 335  | 360  | 360  | 210  | 265  | 290  | 315  | 310  | 170  | 215  | 235  | 255  | 250  | Non ferrous                     |
|     | 820  | 1050 | 1100 | 1175 | 1175 | 690  | 870  | 950  | 1025 | 1025 | 560  | 710  | 770  | 840  | 820  |                                 |
| K2  | 220  | 275  | 290  | 315  | 315  | 185  | 230  | 255  | 275  | 275  | 150  | 190  | 205  | 220  | 220  | Non ferrous                     |
|     | 720  | 900  | 950  | 1025 | 1025 | 610  | 750  | 840  | 900  | 900  | 490  | 620  | 670  | 720  | 720  |                                 |
| K3  | 185  | 235  | 245  | 265  | 265  | 160  | 195  | 215  | 230  | 230  | 130  | 160  | 175  | 190  | 185  | Non ferrous                     |
|     | 610  | 770  | 800  | 870  | 870  | 520  | 640  | 710  | 750  | 750  | 425  | 520  | 570  | 620  | 610  |                                 |
| K4  | 175  | 225  | 235  | 255  | 255  | 150  | 185  | 205  | 220  | 220  | 120  | 150  | 165  | 180  | 180  | Non ferrous                     |
|     | 570  | 740  | 770  | 840  | 840  | 490  | 610  | 670  | 720  | 720  | 395  | 490  | 540  | 590  | 590  |                                 |
| K5  | 105  | 135  | 140  | 150  | 150  | 90   | 115  | 125  | 135  | 135  | 75   | 90   | 100  | 110  | 105  | Hard                            |
|     | 345  | 445  | 460  | 490  | 490  | 295  | 375  | 410  | 445  | 445  | 245  | 295  | 330  | 360  | 345  |                                 |
| K6  | 155  | 195  | 205  | 225  | 225  | 135  | 165  | 180  | 195  | 195  | 105  | 135  | 145  | 160  | 155  | Hard                            |
|     | 510  | 640  | 670  | 740  | 740  | 445  | 540  | 590  | 640  | 640  | 345  | 445  | 475  | 520  | 510  |                                 |
| K7  | 135  | 170  | 180  | 195  | 195  | 115  | 145  | 155  | 170  | 170  | 95   | 115  | 125  | 140  | 140  | Hard                            |
|     | 445  | 560  | 590  | 640  | 640  | 375  | 475  | 510  | 560  | 560  | 310  | 375  | 410  | 460  | 460  |                                 |
| N1  | 1975 | 2475 | 2600 | 2800 | 2800 | 1625 | 2050 | 2225 | 2400 | 2375 | 1325 | 1650 | 1800 | 1950 | 1925 | Graphite                        |
|     | 6475 | 8125 | 8525 | 9175 | 9175 | 5325 | 6725 | 7300 | 7875 | 7800 | 4350 | 5425 | 5900 | 6400 | 6325 |                                 |
| N2  | 790  | 1000 | 1050 | 1125 | 1125 | 660  | 820  | 900  | 970  | 960  | 530  | 670  | 730  | 790  | 780  | Graphite                        |
|     | 2600 | 3275 | 3450 | 3700 | 3700 | 2175 | 2700 | 2950 | 3175 | 3150 | 1750 | 2200 | 2400 | 2600 | 2550 |                                 |
| N3  | 530  | 670  | 700  | 760  | 750  | 440  | 550  | 600  | 650  | 640  | 355  | 445  | 485  | 520  | 520  | Graphite                        |
|     | 1750 | 2200 | 2300 | 2500 | 2450 | 1450 | 1800 | 1975 | 2125 | 2100 | 1175 | 1450 | 1600 | 1700 | 1700 |                                 |
| N11 | 600  | 760  | 800  | 860  | 860  | 500  | 630  | 680  | 740  | 730  | 405  | 510  | 550  | 600  | 590  | Graphite                        |
|     | 1975 | 2500 | 2625 | 2825 | 2825 | 1650 | 2075 | 2225 | 2425 | 2400 | 1325 | 1675 | 1800 | 1975 | 1925 |                                 |
| S1  | 60   | 75   | 75   | 80   | 80   | 50   | 65   | 65   | 70   | 70   | 42   | 55   | 55   | 60   | 60   | X-Heads                         |
|     | 195  | 245  | 260  | 260  | 260  | 165  | 215  | 230  | 230  | 230  | 140  | 180  | 180  | 195  | 195  |                                 |
| S2  | 47   | 60   | 60   | 65   | 65   | 42   | 55   | 55   | 60   | 60   | 34   | 43   | 43   | 47   | 47   | X-Heads                         |
|     | 155  | 195  | 215  | 215  | 215  | 140  | 180  | 180  | 195  | 195  | 110  | 140  | 150  | 155  | 155  |                                 |
| S3  | 41   | 50   | 50   | 55   | 55   | 36   | 46   | 46   | 50   | 50   | 29   | 37   | 38   | 40   | 40   | X-Heads                         |
|     | 135  | 165  | 180  | 180  | 180  | 120  | 150  | 160  | 165  | 165  | 95   | 120  | 130  | 130  | 130  |                                 |
| S11 | 85   | 105  | 105  | 115  | 115  | 75   | 95   | 95   | 105  | 100  | 60   | 75   | 75   | 85   | 85   | X-Heads                         |
|     | 280  | 345  | 360  | 375  | 375  | 245  | 310  | 310  | 345  | 330  | 195  | 245  | 260  | 280  | 280  |                                 |
| S12 | 55   | 75   | 75   | 80   | 80   | 50   | 65   | 65   | 70   | 70   | 41   | 55   | 55   | 55   | 55   | Minimaster                      |
|     | 180  | 245  | 245  | 260  | 260  | 165  | 215  | 215  | 230  | 230  | 135  | 180  | 180  | 180  | 180  |                                 |
| S13 | 33   | 42   | 42   | 45   | 45   | 29   | 37   | 37   | 40   | 40   | 24   | 30   | 30   | 33   | 33   | Minimaster                      |
|     | 110  | 140  | 150  | 150  | 150  | 95   | 120  | 130  | 130  | 130  | 80   | 100  | 105  | 110  | 110  |                                 |
| H5  | 48   | 60   | 60   | 65   | 65   | 42   | 55   | 55   | 60   | 60   | 34   | 43   | 45   | 49   | 49   | Minimaster                      |
|     | 155  | 195  | 215  | 215  | 215  | 140  | 180  | 180  | 195  | 195  | 110  | 140  | 150  | 160  | 160  |                                 |
| H8  | 48   | 60   | 60   | 65   | 65   | 44   | 55   | 55   | 60   | 60   | 36   | 46   | 46   | 50   | 50   | Minimaster                      |
|     | 155  | 195  | 215  | 215  | 215  | 145  | 180  | 195  | 195  | 195  | 120  | 150  | 155  | 165  | 165  |                                 |
| H11 | 60   | 80   | 80   | 85   | 85   | 55   | 70   | 70   | 75   | 75   | 44   | 55   | 55   | 60   | 60   | Minimaster                      |
|     | 195  | 260  | 260  | 280  | 280  | 180  | 230  | 230  | 245  | 245  | 145  | 180  | 195  | 195  | 195  |                                 |
| H12 | 85   | 110  | 110  | 120  | 120  | 80   | 100  | 100  | 110  | 110  | 65   | 80   | 85   | 90   | 90   | Minimaster                      |
|     | 280  | 360  | 375  | 395  | 395  | 260  | 330  | 345  | 360  | 360  | 215  | 260  | 280  | 295  | 295  |                                 |
| H21 | 48   | 60   | 60   | 65   | 65   | 44   | 55   | 55   | 60   | 60   | 36   | 46   | 46   | 50   | 50   | Minimaster                      |
|     | 155  | 195  | 215  | 215  | 215  | 145  | 180  | 195  | 195  | 195  | 120  | 150  | 155  | 165  | 165  |                                 |

## Shank design

| Universal<br>Steel and cast<br>iron<br>Stainless steel<br>and S-materials<br>Non ferrous<br>Hard<br>Plastic and cfrp<br>Graphite<br>X-Heads | Design 1, Keyway shank                                                              | Design 2, Cylindrical/Weldon back end and 90° front                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                                                                                                                                             |    |   |
|                                                                                                                                             | Design 3, Cylindrical/Weldon back end tapered front 87°/89°                         | Design 4, Cylindrical/Weldon back end tapered front 80°/85°/87°                      |
|                                                                                                                                             |   |  |
|                                                                                                                                             | Design 5, Cylindrical back end double tapered front end 89°/85°                     |                                                                                      |
|                                                                                                                                             |  |                                                                                      |



MM08 Shank – Metric



| Designation         | Item number | DCSFWS | DMM  | LF   | LPR   | OAL   | BHTA° | Design | CSP | RPMX  | Shank                | Weight | Spare part no. |
|---------------------|-------------|--------|------|------|-------|-------|-------|--------|-----|-------|----------------------|--------|----------------|
|                     |             | mm     | mm   | mm   | mm    | mm    |       |        |     |       |                      | kg     |                |
| MM08-10040.0-0007   | 00083980    | 7,6    | 10,0 | 7,0  | 7,0   | 40,0  | 0,0   | 2      | ■   | 80000 | Cylindrical          | 0,1    | 2              |
| MM08-10050.0-0007DS | 02580665    | 7,6    | 10,0 | 7,0  | 10,0  | 50,0  | 0,0   | 2      | ■   | 80000 | Cylindrical Densimet | 0,1    | 3              |
| MM08-10080.0-3023DS | 02580702    | 7,6    | 10,0 | 22,9 | 40,0  | 80,0  | 3,0   | 4      | ■   | 80000 | Cylindrical Densimet | 0,1    | 3              |
| MM08-12065.0-0000   | 75034240    | 7,6    | 12,0 | 0,0  | 20,0  | 65,0  | 60,0  | 1      | ■   | 80000 | Cylindrical          | 0,1    | 1              |
| MM08-12100.0-1035DS | 02580719    | 7,6    | 12,0 | 35,0 | 55,0  | 100,0 | 1,0   | 3      | ■   | 80000 | Cylindrical Densimet | 0,2    | 3              |
| MM08-12120.0-1050DS | 02580720    | 7,6    | 12,0 | 50,0 | 75,0  | 120,0 | 1,0   | 3      | ■   | 80000 | Cylindrical Densimet | 0,2    | 3              |
| MM08-16070.3-0007   | 75034241    | 7,6    | 16,0 | 7,6  | 22,0  | 70,0  | 0,0   | 2      | ■   | 80000 | Weldon               | 0,1    | 1              |
| MM08-16075.3-3012   | 75034242    | 7,6    | 16,0 | 12,0 | 27,0  | 75,0  | 3,0   | 3      | ■   | 80000 | Weldon               | 0,1    | 1              |
| MM08-16120.3-5048M  | 00042863    | 7,6    | 16,0 | 48,0 | 72,0  | 120,0 | 5,0   | 4      | ■   | 80000 | Weldon               | 0,2    | 5              |
| MM08-16150.0-1030M  | 00094751    | 7,6    | 16,0 | 30,0 | 102,0 | 150,0 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0,2    | 5              |
| MM08-16150.0-1050M  | 00094752    | 7,6    | 16,0 | 50,0 | 102,0 | 150,0 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0,2    | 4              |
| MM08-16150.0-1070M  | 00094754    | 7,6    | 16,0 | 70,0 | 102,0 | 150,0 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0,2    | 4              |
| MM08-16085.0-0016DS | 02580675    | 7,6    | 16,0 | 16,0 | 37,0  | 85,0  | 0,0   | 2      | ■   | 80000 | Cylindrical Densimet | 0,3    | 3              |
| MM08-16100.0-0032DS | 02580687    | 7,6    | 16,0 | 32,0 | 52,0  | 100,0 | 0,0   | 2      | ■   | 80000 | Cylindrical Densimet | 0,3    | 3              |
| MM08-16150.0-1050DS | 02580722    | 7,6    | 16,0 | 50,0 | 102,0 | 150,0 | 1,0   | 3      | ■   | 80000 | Cylindrical Densimet | 0,4    | 3              |
| MM08-16150.0-1070DS | 02580727    | 7,6    | 16,0 | 70,0 | 102,0 | 150,0 | 1,0   | 3      | ■   | 80000 | Cylindrical Densimet | 0,3    | 3              |

Spare Parts, included in delivery

Accessories

| For cutter | Sleeve                                                                              | Tension screw                                                                       | Sleeve key                                                                            |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|            |  |  |  |
| 1          | MM-05044                                                                            | MM08-0524                                                                           | H05-4                                                                                 |
| 2          | MM-05019                                                                            | MM08-0524                                                                           | H05-4                                                                                 |
| 3          | –                                                                                   | MM08-0524                                                                           | –                                                                                     |
| 4          | MM-05044                                                                            | MM08-0582                                                                           | H05-4                                                                                 |
| 5          | MM-05044                                                                            | MM08-0543                                                                           | H05-4                                                                                 |

Allen key H05-4 for sleeve to be ordered separately.  
For wrench types, see insert pages

Universal

Steel and cast iron

Stainless steel and S-materials

Stainless steel and S-materials

Non ferrous

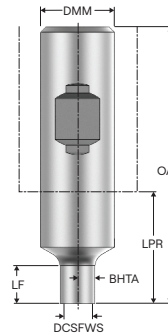
Hard

Graphite

X-Heads

Minimaster

#### MM08 Shank – Inch



| Designation             | Item number | DCSFWS | DMM   | LF    | LPR   | OAL   | BHTA° | Design | CSP | RPMX  | Shank                | Weight | Spare part no. |
|-------------------------|-------------|--------|-------|-------|-------|-------|-------|--------|-----|-------|----------------------|--------|----------------|
|                         |             | inch   | inch  | inch  | inch  | inch  |       |        |     |       |                      | lbs    |                |
| MM08-0.38-1.6-0-0002    | 00096119    | 0.299  | 0.375 | 0.276 | 0.276 | 1.575 | 0,0   | 2      | ■   | 80000 | Cylindrical          | 0.220  | 3              |
| MM08-0.50-2.6-0-0000    | 75054599    | 0.299  | 0.500 | 0     | 0.787 | 2.559 | 60,0  | 1      | ■   | 80000 | Cylindrical          | 0.220  | 1              |
| MM08-0.62-2.8-3-0003    | 75054600    | 0.299  | 0.625 | 0.299 | 0.866 | 2.756 | 0,0   | 2      | ■   | 80000 | Weldon               | 0.220  | 1              |
| MM08-0.62-3.0-3-3004    | 75054601    | 0.299  | 0.625 | 0.472 | 1.063 | 2.953 | 3,0   | 3      | ■   | 80000 | Weldon               | 0.220  | 1              |
| MM08-0.62-4.7-3-5018    | 75054602    | 0.299  | 0.625 | 1.850 | 2.835 | 4.724 | 5,0   | 4      | ■   | 80000 | Weldon               | 0.440  | 2              |
| MM08-0.62-5.9-0-1011    | 75054604    | 0.299  | 0.625 | 1.181 | 4.016 | 5.906 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0.440  | 2              |
| MM08-0.62-3.3-0-0006DS  | 02593402    | 0.299  | 0.625 | 0.630 | 1.457 | 3.346 | 0,0   | 2      | ■   | 80000 | Cylindrical Densimet | 0.660  | 4              |
| MM08-0.62-4.0-0-0012DS  | 02593403    | 0.299  | 0.625 | 1.260 | 2.047 | 3.937 | 0,0   | 2      | ■   | 80000 | Cylindrical Densimet | 0.660  | 4              |
| MM08-0.62-5.9-0-1019DS  | 02593407    | 0.299  | 0.625 | 1.969 | 4.016 | 5.906 | 1,0   | 3      | ■   | 80000 | Cylindrical Densimet | 0.880  | 4              |
| MM08-0.62-5.9-0-1027DS  | 02593410    | 0.299  | 0.625 | 2.756 | 4.016 | 5.906 | 1,0   | 3      | ■   | 80000 | Cylindrical Densimet | 0.660  | 4              |
| MM08-0.75-10.0-0-1019DS | 02593413    | 0.299  | 0.750 | 1.969 | 7.874 | 9.843 | 1,0   | 5      | ■   | 80000 | Cylindrical Densimet | 1.980  | 4              |

#### Spare Parts, included in delivery

#### Accessories

| For cutter | Sleeve                                                                              | Tension screw                                                                       | Sleeve key                                                                            |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|            |  |  |  |
| 1          | MM-05044                                                                            | MM08-0524                                                                           | H05-4                                                                                 |
| 2          | MM-05044                                                                            | MM08-0543                                                                           | H05-4                                                                                 |
| 3          | MM-05019                                                                            | MM08-0524                                                                           | H05-4                                                                                 |
| 4          | –                                                                                   | MM08-0524                                                                           | –                                                                                     |

Allen key H05-4 for sleeve to be ordered separately.  
For wrench types, see insert pages

#### Slot milling/square shoulder milling



—For Torque keys and torque values, see page 799

|                       |              |               |              |               |       |       |       |      |      |        |                                                                                     | Grades |      |      |      |
|-----------------------|--------------|---------------|--------------|---------------|-------|-------|-------|------|------|--------|-------------------------------------------------------------------------------------|--------|------|------|------|
| Designation           | DC           | APMXS         | RE           | LF            | RMPX° | C min | C max | FHA° | ZEFP | Wrench |  | Coated |      |      |      |
|                       |              |               |              |               |       |       |       |      |      |        |                                                                                     | T60M   | F15M | F30M | F40M |
|                       | mm<br>Inch   | mm<br>Inch    | mm<br>Inch   | mm<br>Inch    |       |       |       |      |      |        |                                                                                     |        |      |      |      |
| MM08-07805T-R02-D03   | 7,8<br>0.307 | 5,4<br>0.213  | 0,2<br>0.008 | 6,8<br>0.268  | 15,0  | 9,6   | 15,0  | 0    | 2    | MM0612 |                                                                                     | ■      |      |      |      |
| MM08-07809-R02A30-M03 | 7,8<br>0.307 | 10,0<br>0.394 | 0,2<br>0.008 | 13,0<br>0.512 | 15,0  | 9,6   | 15,0  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM08-08005-M03        | 8,0<br>0.315 | 5,5<br>0.217  | –            | 6,8<br>0.268  | 15,0  | 9,8   | 15,8  | 0    | 2    | MM0612 |                                                                                     | ■      |      |      |      |
| MM08-08005-R04A8-E03  | 8,0<br>0.315 | 5,4<br>0.213  | 0,4<br>0.016 | 6,7<br>0.264  | 15,0  | 9,8   | 15,0  | 8    | 2    | MM0612 |                                                                                     | ■      |      | ■    |      |
| MM08-08005-R04-MD03   | 8,0<br>0.315 | 5,5<br>0.217  | 0,4<br>0.016 | 6,8<br>0.268  | 15,0  | 9,8   | 15,0  | 0    | 2    | MM0612 |                                                                                     | ■      |      | ■    |      |
| MM08-08005-R04P-M02   | 8,0<br>0.315 | 5,4<br>0.213  | 0,4<br>0.016 | 6,7<br>0.264  | 15,0  | 9,8   | 15,0  | 0    | 2    | MM0612 |                                                                                     |        |      | ■    |      |
| MM08-08005-R10-MD03   | 8,0<br>0.315 | 5,4<br>0.213  | 1,0<br>0.039 | 6,8<br>0.268  | 15,0  | 9,8   | 13,8  | 0    | 2    | MM0612 |                                                                                     |        |      | ■    |      |
| MM08-08009-A30-E03    | 8,0<br>0.315 | 10,0<br>0.394 | –            | 13,0<br>0.512 | 15,0  | 9,8   | 15,0  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM08-08009-R05A30-M03 | 8,0<br>0.315 | 10,0<br>0.394 | 0,5<br>0.020 | 13,0<br>0.512 | 15,0  | 9,8   | 14,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM08-08009-R10A30-D03 | 8,0<br>0.315 | 10,0<br>0.394 | 1,0<br>0.039 | 13,0<br>0.512 | 15,0  | 9,8   | 13,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM08-08009-R10A30-E03 | 8,0<br>0.315 | 10,0<br>0.394 | 1,0<br>0.039 | 13,0<br>0.512 | 15,0  | 9,8   | 13,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM08-08009-R10A30-M03 | 8,0<br>0.315 | 10,0<br>0.394 | 1,0<br>0.039 | 13,0<br>0.512 | 15,0  | 9,8   | 13,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM08-08009-R20A30-M03 | 8,0<br>0.315 | 10,0<br>0.394 | 2,0<br>0.079 | 13,0<br>0.512 | 15,0  | 9,8   | 11,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM08-08009-R30A30-M03 | 8,0<br>0.315 | 10,0<br>0.394 | 3,0<br>0.118 | 13,0<br>0.512 | 15,0  | 9,8   | 9,8   | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

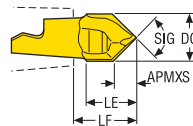
Hard

Graphite

X-Heads

Minimaster

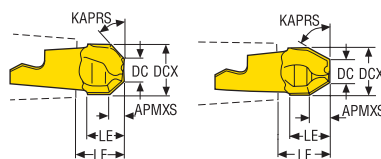
#### Centre drilling



—For Torque keys and torque values, see page 799

| Designation         | DC           | APMXS         | LE            | LF            | SIG°  | ZEFP | Wrench | Grades |      |      |      |
|---------------------|--------------|---------------|---------------|---------------|-------|------|--------|--------|------|------|------|
|                     |              |               |               |               |       |      |        | Coated |      |      |      |
|                     | mm<br>Inch   | mm<br>Inch    | mm<br>Inch    | mm<br>Inch    |       |      |        | T60M   | F15M | F30M | F40M |
| MM08-08004-C90-M03  | 8,0<br>0.315 | 3,79<br>0.149 | 8,0<br>0.315  | 9,5<br>0.374  | 90,0  | 2    | MM0612 | ■      |      |      |      |
| MM08-08006-C120-M03 | 8,0<br>0.315 | 2,15<br>0.085 | 8,32<br>0.328 | 9,46<br>0.372 | 120,0 | 2    | MM0612 | ■      |      |      |      |

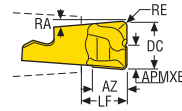
#### Chamfering



—For Torque keys and torque values, see page 799

| Designation         | DCX          | DC            | APMXS        | RE            | LE            | LF            | KAPRS° | ZEFP | Wrench | Grades |      |      |      |
|---------------------|--------------|---------------|--------------|---------------|---------------|---------------|--------|------|--------|--------|------|------|------|
|                     |              |               |              |               |               |               |        |      |        | Coated |      |      |      |
|                     | mm<br>Inch   | mm<br>Inch    | mm<br>Inch   | mm<br>Inch    | mm<br>Inch    | mm<br>Inch    |        |      |        | T60M   | F15M | F30M | F40M |
| MM08-08005-4520-E03 | 8,0<br>0.315 | 3,87<br>0.152 | 2,1<br>0.083 | 0,2<br>0.008  | 5,5<br>0.217  | 6,7<br>0.264  | 45,0   | 2    | MM0612 | ■      |      |      |      |
| MM08-08006-6030-E03 | 8,0<br>0.315 | 4,19<br>0.165 | 3,3<br>0.130 | 0,24<br>0.009 | 6,45<br>0.254 | 7,66<br>0.302 | 60,0   | 2    | MM0612 | ■      |      |      |      |

## Plunge milling



—For Torque keys and torque values, see page 799

| Designation            |              |              |              |              |               |     |      |        | Grades |      |      |      |
|------------------------|--------------|--------------|--------------|--------------|---------------|-----|------|--------|--------|------|------|------|
|                        | DC           | APMXE        | RE           | AZ           | LF            | RA° | ZEFP | Wrench | Coated |      |      |      |
|                        | mm<br>Inch   | mm<br>Inch   | mm<br>Inch   | mm<br>Inch   | mm<br>Inch    |     |      |        | T60M   | F15M | F30M | F40M |
| MM08-08005-R10-PL-MD03 | 8,0<br>0.315 | 4,0<br>0.157 | 1,0<br>0.039 | 5,7<br>0.224 | 6,78<br>0.267 | 5,0 | 2    | MM0612 |        |      | ■    |      |

## Precision inserts for semi-finishing in all materials



—For Torque keys and torque values, see page 799

|                       |               |              |              |               |              |                |       |      |        |        | Grades |      |      |  |
|-----------------------|---------------|--------------|--------------|---------------|--------------|----------------|-------|------|--------|--------|--------|------|------|--|
| Designation           | DC            | APMXS        | RE           | LE            | DN           | LF             | SA°   | ZEFP | Wrench | Coated |        |      |      |  |
|                       | mm<br>Inch    | mm<br>Inch   | mm<br>Inch   | mm<br>Inch    | mm<br>Inch   | mm<br>Inch     |       |      |        | T60M   | F15M   | F30M | F40M |  |
| MM08-10010-B120PF-M02 | 10,0<br>0.394 | 5,0<br>0.197 | 5,0<br>0.197 | 10,0<br>0.394 | 8,0<br>0.315 | 10,97<br>0.432 | 254,0 | 2    | MM0612 |        | ■      |      |      |  |
| MM08-10010-B120P-M04  | 10,0<br>0.394 | 5,0<br>0.197 | 5,0<br>0.197 | 10,0<br>0.394 | 8,0<br>0.315 | 10,97<br>0.432 | 254,0 | 2    | MM0612 |        |        | ■    |      |  |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

Hard

Graphite

X-Heads

Minimaster

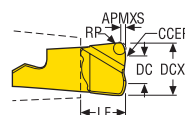
#### Copy milling



—For Torque keys and torque values, see page 799

| Grades                |                   |                   |                   |                   |      |      |        |                                                                                    |        |      |      |      |
|-----------------------|-------------------|-------------------|-------------------|-------------------|------|------|--------|------------------------------------------------------------------------------------|--------|------|------|------|
| Designation           | DC                | APMXS             | RE                | LF                | FHA° | ZEFP | Wrench |  | Coated |      |      |      |
|                       | mm<br><i>Inch</i> | mm<br><i>Inch</i> | mm<br><i>Inch</i> | mm<br><i>Inch</i> |      |      |        |                                                                                    | T60M   | F15M | F30M | F40M |
| MM08-08008-B90-MD03   | 8,0<br>0.315      | 8,1<br>0.319      | 4,0<br>0.157      | 9,42<br>0.371     |      | 2    | MM0612 |                                                                                    | ■      |      | ■    |      |
| MM08-08008-B90PF-M01  | 8,0<br>0.315      | 6,9<br>0.272      | 4,0<br>0.157      | 9,39<br>0.370     |      | 2    | MM0612 |                                                                                    |        | ■    |      |      |
| MM08-08008-B90P-M03   | 8,0<br>0.315      | 6,9<br>0.272      | 4,0<br>0.157      | 9,39<br>0.370     |      | 2    | MM0612 |                                                                                    |        |      | ■    |      |
| MM08-08008-B90S-E03   | 8,0<br>0.315      | 8,1<br>0.319      | 4,0<br>0.157      | 9,42<br>0.371     |      | 2    | MM0612 |                                                                                    |        |      | ■    |      |
| MM08-08009-B90A30-E03 | 8,0<br>0.315      | 10,0<br>0.394     | 4,0<br>0.157      | 13,0<br>0.512     | 30,0 | 3    | MM0416 | ✓                                                                                  |        |      | ■    |      |
| MM08-08009-B90A30-M03 | 8,0<br>0.315      | 10,0<br>0.394     | 4,0<br>0.157      | 13,0<br>0.512     | 30,0 | 3    | MM0416 | ✓                                                                                  |        |      |      | ■    |

#### High feed



—For Torque keys and torque values, see page 799

|                    |              |              |               |               |              |               |       |       |       |      |        | Grades |      |      |      |
|--------------------|--------------|--------------|---------------|---------------|--------------|---------------|-------|-------|-------|------|--------|--------|------|------|------|
| Designation        | DCX          | DC           | APMXS         | RP            | CCER         | LF            | RMPX° | C min | C max | ZEFP | Wrench | Coated |      |      |      |
|                    | mm<br>Inch   | mm<br>Inch   | mm<br>Inch    | mm<br>Inch    | mm<br>Inch   | mm<br>Inch    |       |       |       |      |        | T60M   | F15M | F30M | F40M |
| MM08-08.40-HF-MD06 | 8,0<br>0.315 | 4,0<br>0.157 | 0,37<br>0.015 | 0,88<br>0.035 | 4,0<br>0.157 | 6,84<br>0.269 | 5,0   | 9,8   | 14,6  | 2    | MM0612 |        |      | ■    |      |

**MM08 – Slot and Side milling – Insert selection – mm/Inch**

| SMG |                            | $a_p$ | $f_z$  |        |        |        |
|-----|----------------------------|-------|--------|--------|--------|--------|
|     |                            |       | 100%   | 40%    | 20%    | 10%    |
| P1  | MM08-08009-R05A30-M03 F40M | 1,8   | 0,044  | 0,044  | 0,055  | 0,070  |
|     |                            | 0,070 | 0,0017 | 0,0017 | 0,0022 | 0,0028 |
| P2  | MM08-08009-R05A30-M03 F40M | 1,8   | 0,044  | 0,046  | 0,055  | 0,070  |
|     |                            | 0,070 | 0,0017 | 0,0018 | 0,0022 | 0,0028 |
| P3  | MM08-08009-R05A30-M03 F40M | 1,8   | 0,042  | 0,042  | 0,050  | 0,070  |
|     |                            | 0,070 | 0,0017 | 0,0017 | 0,0020 | 0,0028 |
| P4  | MM08-08009-R05A30-M03 F40M | 1,8   | 0,042  | 0,042  | 0,050  | 0,065  |
|     |                            | 0,070 | 0,0017 | 0,0017 | 0,0020 | 0,0026 |
| P5  | MM08-08009-R05A30-M03 F40M | 1,8   | 0,040  | 0,042  | 0,050  | 0,065  |
|     |                            | 0,070 | 0,0016 | 0,0017 | 0,0020 | 0,0026 |
| P6  | MM08-08009-R05A30-M03 F40M | 1,8   | 0,040  | 0,040  | 0,048  | 0,065  |
|     |                            | 0,070 | 0,0016 | 0,0016 | 0,0019 | 0,0026 |
| P7  | MM08-08009-R05A30-M03 F40M | 1,8   | 0,040  | 0,040  | 0,048  | 0,065  |
|     |                            | 0,070 | 0,0016 | 0,0016 | 0,0019 | 0,0026 |
| P8  | MM08-08009-R05A30-M03 F40M | 1,8   | 0,042  | 0,042  | 0,050  | 0,070  |
|     |                            | 0,070 | 0,0017 | 0,0017 | 0,0020 | 0,0028 |
| P11 | MM08-08009-R05A30-M03 F40M | 1,8   | 0,040  | 0,040  | 0,048  | 0,065  |
|     |                            | 0,070 | 0,0016 | 0,0016 | 0,0019 | 0,0026 |
| P12 | MM08-08009-R05A30-M03 F40M | 1,4   | 0,028  | 0,028  | 0,034  | 0,044  |
|     |                            | 0,055 | 0,0011 | 0,0011 | 0,0013 | 0,0017 |
| M1  | MM08-08009-R05A30-M03 F40M | 1,8   | 0,044  | 0,046  | 0,055  | 0,070  |
|     |                            | 0,070 | 0,0017 | 0,0018 | 0,0022 | 0,0028 |
| M2  | MM08-08009-R05A30-M03 F40M | 1,8   | 0,040  | 0,042  | 0,050  | 0,065  |
|     |                            | 0,070 | 0,0016 | 0,0017 | 0,0020 | 0,0026 |
| M3  | MM08-08009-R05A30-M03 F40M | 1,4   | 0,034  | 0,034  | 0,040  | 0,055  |
|     |                            | 0,055 | 0,0013 | 0,0013 | 0,0016 | 0,0022 |
| M4  | MM08-08009-R05A30-M03 F40M | 1,0   | 0,030  | 0,030  | 0,034  | 0,046  |
|     |                            | 0,040 | 0,0012 | 0,0012 | 0,0013 | 0,0018 |
| M5  | MM08-08009-R05A30-M03 F40M | 1,0   | 0,030  | 0,030  | 0,034  | 0,046  |
|     |                            | 0,040 | 0,0012 | 0,0012 | 0,0013 | 0,0018 |
| K1  | MM08-08009-R10A30-E03 F30M | 1,8   | 0,050  | 0,048  | 0,055  | 0,075  |
|     |                            | 0,070 | 0,0020 | 0,0019 | 0,0022 | 0,0030 |
| K2  | MM08-08009-R10A30-E03 F30M | 1,8   | 0,044  | 0,044  | 0,050  | 0,065  |
|     |                            | 0,070 | 0,0017 | 0,0017 | 0,0020 | 0,0026 |
| K3  | MM08-08009-R10A30-E03 F30M | 1,8   | 0,044  | 0,044  | 0,050  | 0,065  |
|     |                            | 0,070 | 0,0017 | 0,0017 | 0,0020 | 0,0026 |
| K4  | MM08-08009-R10A30-E03 F30M | 1,8   | 0,044  | 0,044  | 0,050  | 0,065  |
|     |                            | 0,070 | 0,0017 | 0,0017 | 0,0020 | 0,0026 |
| K5  | MM08-08009-R10A30-D03 F30M | 1,8   | 0,040  | 0,040  | 0,046  | 0,060  |
|     |                            | 0,070 | 0,0016 | 0,0016 | 0,0018 | 0,0024 |
| K6  | MM08-08009-R10A30-D03 F30M | 1,8   | 0,044  | 0,044  | 0,050  | 0,065  |
|     |                            | 0,070 | 0,0017 | 0,0017 | 0,0020 | 0,0026 |
| K7  | MM08-08009-R10A30-D03 F30M | 1,8   | 0,040  | 0,040  | 0,046  | 0,060  |
|     |                            | 0,070 | 0,0016 | 0,0016 | 0,0018 | 0,0024 |
| N1  | MM08-08009-R10A30-E03 F30M | 1,8   | 0,060  | 0,060  | 0,070  | 0,095  |
|     |                            | 0,070 | 0,0024 | 0,0024 | 0,0028 | 0,0038 |
| N2  | MM08-08009-R10A30-E03 F30M | 1,8   | 0,060  | 0,060  | 0,070  | 0,095  |
|     |                            | 0,070 | 0,0024 | 0,0024 | 0,0028 | 0,0038 |
| N3  | MM08-08009-R10A30-E03 F30M | 1,8   | 0,060  | 0,060  | 0,070  | 0,095  |
|     |                            | 0,070 | 0,0024 | 0,0024 | 0,0028 | 0,0038 |
| N11 | MM08-08009-R10A30-E03 F30M | 1,8   | 0,060  | 0,060  | 0,070  | 0,095  |
|     |                            | 0,070 | 0,0024 | 0,0024 | 0,0028 | 0,0038 |
| S1  | MM08-08009-R10A30-D03 F30M | 1,0   | 0,038  | 0,036  | 0,036  | 0,046  |
|     |                            | 0,040 | 0,0015 | 0,0014 | 0,0014 | 0,0019 |
| S2  | MM08-08009-R10A30-D03 F30M | 1,0   | 0,038  | 0,036  | 0,036  | 0,046  |
|     |                            | 0,040 | 0,0015 | 0,0014 | 0,0014 | 0,0019 |
| S3  | MM08-08009-R10A30-D03 F30M | 1,0   | 0,036  | 0,034  | 0,034  | 0,042  |
|     |                            | 0,040 | 0,0014 | 0,0013 | 0,0013 | 0,0017 |
| S11 | MM08-08009-R05A30-M03 F40M | 1,2   | 0,034  | 0,034  | 0,040  | 0,055  |
|     |                            | 0,048 | 0,0013 | 0,0013 | 0,0016 | 0,0022 |
| S12 | MM08-08009-R05A30-M03 F40M | 1,2   | 0,034  | 0,034  | 0,040  | 0,055  |
|     |                            | 0,048 | 0,0013 | 0,0013 | 0,0016 | 0,0022 |
| S13 | MM08-08009-R05A30-M03 F40M | 1,0   | 0,030  | 0,030  | 0,034  | 0,046  |
|     |                            | 0,040 | 0,0012 | 0,0012 | 0,0013 | 0,0018 |
| H5  | MM08-08009-R10A30-E03 F30M | 1,4   | 0,032  | 0,032  | 0,034  | 0,044  |
|     |                            | 0,055 | 0,0013 | 0,0013 | 0,0013 | 0,0018 |
| H8  | MM08-08009-R10A30-E03 F30M | 1,2   | 0,026  | 0,025  | 0,026  | 0,034  |
|     |                            | 0,048 | 0,0010 | 0,0010 | 0,0010 | 0,0013 |
| H11 | MM08-08009-R10A30-E03 F30M | 1,4   | 0,032  | 0,032  | 0,034  | 0,044  |
|     |                            | 0,055 | 0,0013 | 0,0013 | 0,0013 | 0,0018 |
| H12 | MM08-08009-R10A30-E03 F30M | 1,2   | 0,026  | 0,025  | 0,026  | 0,034  |
|     |                            | 0,048 | 0,0010 | 0,0010 | 0,0010 | 0,0013 |
| H21 | MM08-08009-R10A30-E03 F30M | 1,2   | 0,026  | 0,025  | 0,026  | 0,034  |
|     |                            | 0,048 | 0,0010 | 0,0010 | 0,0010 | 0,0013 |

SMG = Seco material group  
 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e/DC$  = %  
 All cutting data are start values

Universal  
 Steel and cast iron  
 Stainless steel and S-materials  
 Stainless steel and S-materials  
 Non ferrous  
 Hard  
 Graphite  
 X-Heads  
 Minimaster

MM08 – Slot and Side milling – Cutting data  $v_c = (m/min)/(sf/min)$ 

|                                 | SMG | F30M |      |      |      | F40M |      |      |      | T60M |      |      |      |
|---------------------------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|
|                                 |     | 100% | 40%  | 20%  | 10%  | 100% | 40%  | 20%  | 10%  | 100% | 40%  | 20%  | 10%  |
| Universal                       | P1  | 265  | 330  | 370  | 410  | 255  | 315  | 350  | 385  | 205  | 250  | 280  | 310  |
|                                 |     | 870  | 1075 | 1225 | 1350 | 840  | 1025 | 1150 | 1275 | 670  | 820  | 920  | 1025 |
| Steel and cast iron             | P2  | 255  | 320  | 360  | 390  | 245  | 305  | 340  | 375  | 195  | 245  | 275  | 300  |
|                                 |     | 840  | 1050 | 1175 | 1275 | 800  | 1000 | 1125 | 1225 | 640  | 800  | 900  | 980  |
|                                 | P3  | 225  | 280  | 315  | 340  | 215  | 265  | 295  | 325  | 170  | 210  | 240  | 260  |
|                                 |     | 740  | 920  | 1025 | 1125 | 710  | 870  | 970  | 1075 | 560  | 690  | 790  | 850  |
|                                 | P4  | 195  | 245  | 275  | 300  | 190  | 235  | 260  | 290  | 150  | 185  | 210  | 230  |
|                                 |     | 640  | 800  | 900  | 980  | 620  | 770  | 850  | 950  | 490  | 610  | 690  | 750  |
|                                 | P5  | 190  | 235  | 265  | 290  | 180  | 225  | 250  | 275  | 145  | 180  | 200  | 220  |
|                                 |     | 620  | 770  | 870  | 950  | 590  | 740  | 820  | 900  | 475  | 590  | 660  | 720  |
|                                 | P6  | 215  | 265  | 295  | 325  | 205  | 255  | 280  | 310  | 160  | 200  | 225  | 250  |
|                                 |     | 710  | 870  | 970  | 1075 | 670  | 840  | 920  | 1025 | 520  | 660  | 740  | 820  |
| Stainless steel and S-materials | P7  | 200  | 250  | 280  | 310  | 190  | 240  | 265  | 290  | 155  | 190  | 215  | 235  |
|                                 |     | 660  | 820  | 920  | 1025 | 620  | 790  | 870  | 950  | 510  | 620  | 710  | 770  |
|                                 | P8  | 190  | 235  | 265  | 285  | 180  | 225  | 250  | 270  | 145  | 180  | 200  | 220  |
|                                 |     | 620  | 770  | 870  | 940  | 590  | 740  | 820  | 890  | 475  | 590  | 660  | 720  |
|                                 | P11 | 195  | 245  | 270  | 300  | 185  | 230  | 260  | 285  | 150  | 185  | 210  | 230  |
|                                 |     | 640  | 800  | 890  | 980  | 610  | 750  | 850  | 940  | 490  | 610  | 690  | 750  |
|                                 | P12 | 120  | 150  | 170  | 185  | 115  | 145  | 160  | 175  | 95   | 115  | 130  | 145  |
|                                 |     | 395  | 490  | 560  | 610  | 375  | 475  | 520  | 570  | 310  | 375  | 425  | 475  |
| Non ferrous                     | M1  | —    | —    | —    | —    | 200  | 245  | 275  | 305  | 160  | 195  | 220  | 240  |
|                                 |     | —    | —    | —    | —    | 660  | 800  | 900  | 1000 | 520  | 640  | 720  | 790  |
|                                 | M2  | —    | —    | —    | —    | 165  | 200  | 225  | 250  | 130  | 160  | 180  | 200  |
|                                 |     | —    | —    | —    | —    | 540  | 660  | 740  | 820  | 425  | 520  | 590  | 660  |
|                                 | M3  | —    | —    | —    | —    | 130  | 160  | 175  | 195  | 105  | 130  | 145  | 155  |
|                                 |     | —    | —    | —    | —    | 425  | 520  | 570  | 640  | 345  | 425  | 475  | 510  |
|                                 | M4  | —    | —    | —    | —    | 100  | 120  | 135  | 150  | 80   | 100  | 110  | 120  |
|                                 |     | —    | —    | —    | —    | 330  | 395  | 445  | 490  | 260  | 330  | 360  | 395  |
|                                 | M5  | —    | —    | —    | —    | 80   | 100  | 115  | 125  | 65   | 85   | 90   | 100  |
|                                 |     | —    | —    | —    | —    | 260  | 330  | 375  | 410  | 215  | 280  | 295  | 330  |
| Hard                            | K1  | 205  | 255  | 285  | 310  | 195  | 240  | 270  | 300  | 155  | 195  | 215  | 235  |
|                                 |     | 670  | 840  | 940  | 1025 | 640  | 790  | 890  | 980  | 510  | 640  | 710  | 770  |
|                                 | K2  | 180  | 225  | 250  | 275  | 170  | 210  | 235  | 260  | 135  | 170  | 190  | 210  |
|                                 |     | 590  | 740  | 820  | 900  | 560  | 690  | 770  | 850  | 445  | 560  | 620  | 690  |
|                                 | K3  | 155  | 190  | 210  | 235  | 145  | 180  | 200  | 220  | 115  | 145  | 160  | 180  |
|                                 |     | 510  | 620  | 690  | 770  | 475  | 590  | 660  | 720  | 375  | 475  | 520  | 590  |
|                                 | K4  | 145  | 180  | 200  | 225  | 140  | 170  | 190  | 210  | 110  | 140  | 155  | 170  |
|                                 |     | 475  | 590  | 660  | 740  | 460  | 560  | 620  | 690  | 360  | 460  | 510  | 560  |
|                                 | K5  | 90   | 110  | 120  | 135  | 85   | 105  | 115  | 125  | 65   | 85   | 95   | 100  |
|                                 |     | 295  | 360  | 395  | 445  | 280  | 345  | 375  | 410  | 215  | 280  | 310  | 330  |
|                                 | K6  | 130  | 160  | 180  | 195  | 120  | 150  | 170  | 185  | 95   | 120  | 135  | 150  |
|                                 |     | 425  | 520  | 590  | 640  | 395  | 490  | 560  | 610  | 310  | 395  | 445  | 490  |
|                                 | K7  | 115  | 140  | 155  | 170  | 110  | 135  | 150  | 165  | 85   | 105  | 120  | 130  |
|                                 |     | 375  | 460  | 510  | 560  | 360  | 445  | 490  | 540  | 280  | 345  | 395  | 425  |
|                                 | N1  | 1550 | 1950 | 2150 | 2350 | 1475 | 1850 | 2025 | 2250 | 1175 | 1475 | 1625 | 1800 |
|                                 |     | 5075 | 6400 | 7050 | 7700 | 4850 | 6075 | 6650 | 7375 | 3850 | 4850 | 5325 | 5900 |
|                                 | N2  | 630  | 780  | 870  | 950  | 600  | 750  | 820  | 910  | 475  | 590  | 660  | 720  |
|                                 |     | 2075 | 2550 | 2850 | 3125 | 1975 | 2450 | 2700 | 2975 | 1550 | 1925 | 2175 | 2350 |
|                                 | N3  | 420  | 520  | 580  | 630  | 400  | 495  | 550  | 610  | 315  | 395  | 440  | 485  |
|                                 |     | 1375 | 1700 | 1900 | 2075 | 1300 | 1625 | 1800 | 2000 | 1025 | 1300 | 1450 | 1600 |
|                                 | N11 | 480  | 600  | 660  | 720  | 455  | 570  | 630  | 690  | 360  | 455  | 500  | 550  |
|                                 |     | 1575 | 1975 | 2175 | 2350 | 1500 | 1875 | 2075 | 2275 | 1175 | 1500 | 1650 | 1800 |
|                                 | S1  | 48   | 60   | 65   | 75   | 46   | 55   | 65   | 70   | 37   | 46   | 50   | 55   |
|                                 |     | 155  | 195  | 215  | 245  | 150  | 180  | 215  | 230  | 120  | 150  | 165  | 180  |
|                                 | S2  | 39   | 48   | 55   | 60   | 37   | 46   | 50   | 55   | 30   | 37   | 41   | 45   |
|                                 |     | 130  | 155  | 180  | 195  | 120  | 150  | 165  | 180  | 100  | 120  | 135  | 150  |
|                                 | S3  | 34   | 42   | 47   | 50   | 32   | 40   | 45   | 49   | 26   | 32   | 36   | 39   |
|                                 |     | 110  | 140  | 155  | 165  | 105  | 130  | 150  | 160  | 85   | 105  | 120  | 130  |
|                                 | S11 | —    | —    | —    | —    | 65   | 80   | 90   | 100  | 50   | 65   | 75   | 80   |
|                                 |     | —    | —    | —    | —    | 215  | 260  | 295  | 330  | 165  | 215  | 245  | 260  |
|                                 | S12 | —    | —    | —    | —    | 45   | 55   | 60   | 70   | 36   | 45   | 50   | 55   |
|                                 |     | —    | —    | —    | —    | 150  | 180  | 195  | 230  | 120  | 150  | 165  | 180  |
|                                 | S13 | —    | —    | —    | —    | 26   | 32   | 36   | 39   | 21   | 26   | 29   | 31   |
|                                 |     | —    | —    | —    | —    | 85   | 105  | 120  | 130  | 70   | 85   | 95   | 100  |
|                                 | H5  | 41   | 50   | 55   | 60   | 39   | 48   | 55   | 60   | 31   | 39   | 43   | 47   |
|                                 |     | 135  | 165  | 180  | 195  | 130  | 155  | 180  | 195  | 100  | 130  | 140  | 155  |
|                                 | H8  | 42   | 50   | 60   | 65   | 40   | 50   | 55   | 60   | 33   | 40   | 45   | 49   |
|                                 |     | 140  | 165  | 195  | 215  | 130  | 165  | 180  | 195  | 110  | 130  | 150  | 160  |
|                                 | H11 | 50   | 65   | 70   | 80   | 49   | 60   | 70   | 75   | 39   | 49   | 55   | 60   |
|                                 |     | 165  | 215  | 230  | 260  | 160  | 195  | 230  | 245  | 130  | 160  | 180  | 195  |
|                                 | H12 | 75   | 95   | 105  | 115  | 70   | 90   | 100  | 110  | 60   | 70   | 80   | 90   |
|                                 |     | 245  | 310  | 345  | 375  | 230  | 295  | 330  | 360  | 195  | 230  | 260  | 295  |
|                                 | H21 | 42   | 50   | 60   | 65   | 40   | 50   | 55   | 60   | 33   | 40   | 45   | 49   |
|                                 |     | 140  | 165  | 195  | 215  | 130  | 165  | 180  | 195  | 110  | 130  | 150  | 160  |



MM08 Z3 – Copy milling – Insert selection – Roughing – mm/Inch

| SMG |                            | $a_p$ |        | $f_z$  |        |        |  |
|-----|----------------------------|-------|--------|--------|--------|--------|--|
|     |                            |       | 100%   | 40%    | 20%    | 10%    |  |
| P1  | MM08-08009-B90A30-M03 F40M | 1,8   | 0,055  | 0,050  | 0,055  | 0,070  |  |
|     |                            | 0,070 | 0,0022 | 0,0020 | 0,0022 | 0,0028 |  |
| P2  | MM08-08009-B90A30-M03 F40M | 1,8   | 0,055  | 0,050  | 0,055  | 0,070  |  |
|     |                            | 0,070 | 0,0022 | 0,0020 | 0,0022 | 0,0028 |  |
| P3  | MM08-08009-B90A30-M03 F40M | 1,8   | 0,050  | 0,050  | 0,050  | 0,070  |  |
|     |                            | 0,070 | 0,0020 | 0,0020 | 0,0020 | 0,0028 |  |
| P4  | MM08-08009-B90A30-M03 F40M | 1,8   | 0,050  | 0,048  | 0,050  | 0,065  |  |
|     |                            | 0,070 | 0,0020 | 0,0019 | 0,0020 | 0,0026 |  |
| P5  | MM08-08009-B90A30-M03 F40M | 1,8   | 0,048  | 0,048  | 0,050  | 0,065  |  |
|     |                            | 0,070 | 0,0019 | 0,0019 | 0,0020 | 0,0026 |  |
| P6  | MM08-08009-B90A30-M03 F40M | 1,8   | 0,048  | 0,048  | 0,050  | 0,065  |  |
|     |                            | 0,070 | 0,0019 | 0,0019 | 0,0020 | 0,0026 |  |
| P7  | MM08-08009-B90A30-M03 F40M | 1,8   | 0,048  | 0,048  | 0,050  | 0,065  |  |
|     |                            | 0,070 | 0,0019 | 0,0019 | 0,0020 | 0,0026 |  |
| P8  | MM08-08009-B90A30-M03 F40M | 1,8   | 0,050  | 0,050  | 0,050  | 0,070  |  |
|     |                            | 0,070 | 0,0020 | 0,0020 | 0,0020 | 0,0028 |  |
| P11 | MM08-08009-B90A30-M03 F40M | 1,8   | 0,048  | 0,048  | 0,050  | 0,065  |  |
|     |                            | 0,070 | 0,0019 | 0,0019 | 0,0020 | 0,0026 |  |
| P12 | MM08-08009-B90A30-M03 F40M | 1,4   | 0,034  | 0,034  | 0,034  | 0,044  |  |
|     |                            | 0,055 | 0,0013 | 0,0013 | 0,0013 | 0,0017 |  |
| M1  | MM08-08009-B90A30-M03 F40M | 1,8   | 0,055  | 0,050  | 0,055  | 0,070  |  |
|     |                            | 0,070 | 0,0022 | 0,0020 | 0,0022 | 0,0028 |  |
| M2  | MM08-08009-B90A30-M03 F40M | 1,8   | 0,048  | 0,048  | 0,050  | 0,065  |  |
|     |                            | 0,070 | 0,0019 | 0,0019 | 0,0020 | 0,0026 |  |
| M3  | MM08-08009-B90A30-M03 F40M | 1,4   | 0,040  | 0,040  | 0,040  | 0,055  |  |
|     |                            | 0,055 | 0,0016 | 0,0016 | 0,0016 | 0,0022 |  |
| M4  | MM08-08009-B90A30-M03 F40M | 1,0   | 0,038  | 0,036  | 0,036  | 0,046  |  |
|     |                            | 0,040 | 0,0015 | 0,0014 | 0,0014 | 0,0019 |  |
| M5  | MM08-08009-B90A30-M03 F40M | 1,0   | 0,038  | 0,036  | 0,036  | 0,046  |  |
|     |                            | 0,040 | 0,0015 | 0,0014 | 0,0014 | 0,0019 |  |
| K1  | MM08-08009-B90A30-E03 F30M | 1,8   | 0,055  | 0,050  | 0,055  | 0,070  |  |
|     |                            | 0,070 | 0,0022 | 0,0020 | 0,0022 | 0,0028 |  |
| K2  | MM08-08009-B90A30-E03 F30M | 1,8   | 0,048  | 0,048  | 0,050  | 0,065  |  |
|     |                            | 0,070 | 0,0019 | 0,0019 | 0,0020 | 0,0026 |  |
| K3  | MM08-08009-B90A30-E03 F30M | 1,8   | 0,048  | 0,048  | 0,050  | 0,065  |  |
|     |                            | 0,070 | 0,0019 | 0,0019 | 0,0020 | 0,0026 |  |
| K4  | MM08-08009-B90A30-E03 F30M | 1,8   | 0,048  | 0,048  | 0,050  | 0,065  |  |
|     |                            | 0,070 | 0,0019 | 0,0019 | 0,0020 | 0,0026 |  |
| K5  | MM08-08009-B90A30-M03 F40M | 1,8   | 0,044  | 0,042  | 0,046  | 0,060  |  |
|     |                            | 0,070 | 0,0017 | 0,0017 | 0,0018 | 0,0024 |  |
| K6  | MM08-08009-B90A30-M03 F40M | 1,8   | 0,048  | 0,048  | 0,050  | 0,065  |  |
|     |                            | 0,070 | 0,0019 | 0,0019 | 0,0020 | 0,0026 |  |
| K7  | MM08-08009-B90A30-M03 F40M | 1,8   | 0,044  | 0,042  | 0,046  | 0,060  |  |
|     |                            | 0,070 | 0,0017 | 0,0017 | 0,0018 | 0,0024 |  |
| N1  | MM08-08009-B90A30-E03 F30M | 1,8   | 0,070  | 0,065  | 0,070  | 0,090  |  |
|     |                            | 0,070 | 0,0028 | 0,0026 | 0,0028 | 0,0036 |  |
| N2  | MM08-08009-B90A30-E03 F30M | 1,8   | 0,070  | 0,065  | 0,070  | 0,090  |  |
|     |                            | 0,070 | 0,0028 | 0,0026 | 0,0028 | 0,0036 |  |
| N3  | MM08-08009-B90A30-E03 F30M | 1,8   | 0,070  | 0,065  | 0,070  | 0,090  |  |
|     |                            | 0,070 | 0,0028 | 0,0026 | 0,0028 | 0,0036 |  |
| N11 | MM08-08009-B90A30-E03 F30M | 1,8   | 0,070  | 0,065  | 0,070  | 0,090  |  |
|     |                            | 0,070 | 0,0028 | 0,0026 | 0,0028 | 0,0036 |  |
| S1  | MM08-08009-B90A30-M03 F40M | 1,0   | 0,038  | 0,036  | 0,036  | 0,046  |  |
|     |                            | 0,040 | 0,0015 | 0,0014 | 0,0014 | 0,0019 |  |
| S2  | MM08-08009-B90A30-M03 F40M | 1,0   | 0,038  | 0,036  | 0,036  | 0,046  |  |
|     |                            | 0,040 | 0,0015 | 0,0014 | 0,0014 | 0,0019 |  |
| S3  | MM08-08009-B90A30-M03 F40M | 1,0   | 0,036  | 0,034  | 0,034  | 0,042  |  |
|     |                            | 0,040 | 0,0014 | 0,0013 | 0,0013 | 0,0017 |  |
| S11 | MM08-08009-B90A30-M03 F40M | 1,2   | 0,042  | 0,040  | 0,042  | 0,055  |  |
|     |                            | 0,048 | 0,0017 | 0,0016 | 0,0017 | 0,0022 |  |
| S12 | MM08-08009-B90A30-M03 F40M | 1,2   | 0,042  | 0,040  | 0,042  | 0,055  |  |
|     |                            | 0,048 | 0,0017 | 0,0016 | 0,0017 | 0,0022 |  |
| S13 | MM08-08009-B90A30-M03 F40M | 1,0   | 0,038  | 0,036  | 0,036  | 0,046  |  |
|     |                            | 0,040 | 0,0015 | 0,0014 | 0,0014 | 0,0019 |  |
| H5  | MM08-08009-B90A30-E03 F30M | 1,4   | 0,034  | 0,034  | 0,034  | 0,044  |  |
|     |                            | 0,055 | 0,0013 | 0,0013 | 0,0013 | 0,0017 |  |
| H8  | MM08-08009-B90A30-E03 F30M | 1,2   | 0,028  | 0,026  | 0,026  | 0,034  |  |
|     |                            | 0,048 | 0,0011 | 0,0010 | 0,0010 | 0,0013 |  |
| H11 | MM08-08009-B90A30-E03 F30M | 1,4   | 0,034  | 0,034  | 0,034  | 0,044  |  |
|     |                            | 0,055 | 0,0013 | 0,0013 | 0,0013 | 0,0017 |  |
| H12 | MM08-08009-B90A30-E03 F30M | 1,2   | 0,028  | 0,026  | 0,026  | 0,034  |  |
|     |                            | 0,048 | 0,0011 | 0,0010 | 0,0010 | 0,0013 |  |
| H21 | MM08-08009-B90A30-E03 F30M | 1,2   | 0,028  | 0,026  | 0,026  | 0,034  |  |
|     |                            | 0,048 | 0,0011 | 0,0010 | 0,0010 | 0,0013 |  |

SMG = Seco material group  
 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e/DC$  = %  
 All cutting data are start values

### MM08 Z3 – Copy milling – Insert selection – Finishing – mm/Inch

|                                 | SMG |                            | $a_p$        | $f_z$           |                 |                 |                 |
|---------------------------------|-----|----------------------------|--------------|-----------------|-----------------|-----------------|-----------------|
|                                 |     |                            |              | 15%             | 10%             | 5%              | 2%              |
| Universal                       | P1  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,10<br>0.0040  | 0,16<br>0.0065  |
|                                 | P2  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,10<br>0.0040  | 0,17<br>0.0065  |
| Steel and cast iron             | P3  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,16<br>0.0065  |
|                                 | P4  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,095<br>0.0038 | 0,15<br>0.0060  |
|                                 | P5  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 | 0,15<br>0.0060  |
|                                 | P6  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 | 0,15<br>0.0060  |
|                                 | P7  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 | 0,15<br>0.0060  |
|                                 | P8  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 | 0,16<br>0.0065  |
| Stainless steel and S-materials | P11 | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 | 0,15<br>0.0060  |
|                                 | P12 | MM08-08009-B90A30-E03 F30M | 1,4<br>0,055 | 0,038<br>0.0015 | 0,044<br>0.0017 | 0,060<br>0.0024 | 0,10<br>0.0040  |
|                                 | M1  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,10<br>0.0040  | 0,17<br>0.0065  |
|                                 | M2  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 | 0,15<br>0.0060  |
| Non ferrous                     | M3  | MM08-08009-B90A30-E03 F30M | 1,4<br>0,055 | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,075<br>0.0030 | 0,12<br>0.0048  |
|                                 | M4  | MM08-08009-B90A30-E03 F30M | 1,0<br>0,040 | 0,040<br>0.0016 | 0,046<br>0.0019 | 0,065<br>0.0026 | 0,10<br>0.0040  |
|                                 | M5  | MM08-08009-B90A30-E03 F30M | 1,0<br>0,040 | 0,040<br>0.0016 | 0,046<br>0.0019 | 0,065<br>0.0026 | 0,10<br>0.0040  |
|                                 | K1  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,10<br>0.0040  | 0,17<br>0.0065  |
|                                 | K2  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 | 0,15<br>0.0060  |
| Hard                            | K3  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 | 0,15<br>0.0060  |
|                                 | K4  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 | 0,15<br>0.0060  |
|                                 | K5  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,13<br>0.0050  |
|                                 | K6  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 | 0,15<br>0.0060  |
|                                 | K7  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 | 0,13<br>0.0050  |
| Plastic and cfrp                | N1  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,13<br>0.0050  | 0,22<br>0.0085  |
|                                 | N2  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,13<br>0.0050  | 0,22<br>0.0085  |
|                                 | N3  | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,13<br>0.0050  | 0,22<br>0.0085  |
|                                 | N11 | MM08-08009-B90A30-E03 F30M | 1,8<br>0,070 | 0,080<br>0.0032 | 0,090<br>0.0036 | 0,13<br>0.0050  | 0,22<br>0.0085  |
| Graphite                        | S1  | MM08-08009-B90A30-E03 F30M | 1,0<br>0,040 | 0,040<br>0.0016 | 0,046<br>0.0019 | 0,065<br>0.0026 | 0,10<br>0.0040  |
|                                 | S2  | MM08-08009-B90A30-E03 F30M | 1,0<br>0,040 | 0,040<br>0.0016 | 0,046<br>0.0019 | 0,065<br>0.0026 | 0,10<br>0.0040  |
|                                 | S3  | MM08-08009-B90A30-E03 F30M | 1,0<br>0,040 | 0,038<br>0.0015 | 0,042<br>0.0017 | 0,060<br>0.0024 | 0,095<br>0.0038 |
|                                 | S11 | MM08-08009-B90A30-E03 F30M | 1,2<br>0,048 | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,075<br>0.0030 | 0,12<br>0.0048  |
| X-Heads                         | S12 | MM08-08009-B90A30-E03 F30M | 1,2<br>0,048 | 0,046<br>0.0018 | 0,055<br>0.0022 | 0,075<br>0.0030 | 0,12<br>0.0048  |
|                                 | S13 | MM08-08009-B90A30-E03 F30M | 1,0<br>0,040 | 0,040<br>0.0016 | 0,046<br>0.0019 | 0,065<br>0.0026 | 0,10<br>0.0040  |
|                                 | H5  | MM08-08009-B90A30-E03 F30M | 1,4<br>0,055 | 0,038<br>0.0015 | 0,044<br>0.0017 | 0,060<br>0.0024 | 0,10<br>0.0040  |
|                                 | H8  | MM08-08009-B90A30-E03 F30M | 1,2<br>0,048 | 0,030<br>0.0012 | 0,034<br>0.0013 | 0,048<br>0.0019 | 0,075<br>0.0030 |
| Minimaster                      | H11 | MM08-08009-B90A30-E03 F30M | 1,4<br>0,055 | 0,038<br>0.0015 | 0,044<br>0.0017 | 0,060<br>0.0024 | 0,10<br>0.0040  |
|                                 | H12 | MM08-08009-B90A30-E03 F30M | 1,2<br>0,048 | 0,030<br>0.0012 | 0,034<br>0.0013 | 0,048<br>0.0019 | 0,075<br>0.0030 |
|                                 | H21 | MM08-08009-B90A30-E03 F30M | 1,2<br>0,048 | 0,030<br>0.0012 | 0,034<br>0.0013 | 0,048<br>0.0019 | 0,075<br>0.0030 |

SMG = Seco material group  
 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %  
 All cutting data are start values

### MM08 Z3 – Copy milling – Cutting data $v_c = (m/min)/(sf/min)$

| SMG | F30M |      |      |      |      | F40M |      |      |      |      | Material Group                  |
|-----|------|------|------|------|------|------|------|------|------|------|---------------------------------|
|     | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   |                                 |
| P1  | 280  | 330  | 355  | 380  | 380  | 265  | 315  | 335  | 360  | 360  | Universal                       |
|     | 920  | 1075 | 1175 | 1250 | 1250 | 870  | 1025 | 1100 | 1175 | 1175 |                                 |
| P2  | 270  | 325  | 345  | 370  | 365  | 260  | 310  | 325  | 350  | 350  | Steel and cast iron             |
|     | 890  | 1075 | 1125 | 1225 | 1200 | 850  | 1025 | 1075 | 1150 | 1150 |                                 |
| P3  | 235  | 280  | 295  | 320  | 320  | 225  | 270  | 280  | 305  | 300  | Steel and cast iron             |
|     | 770  | 920  | 970  | 1050 | 1050 | 740  | 890  | 920  | 1000 | 980  |                                 |
| P4  | 210  | 250  | 265  | 280  | 280  | 200  | 235  | 250  | 270  | 270  | Steel and cast iron             |
|     | 690  | 820  | 870  | 920  | 920  | 660  | 770  | 820  | 890  | 890  |                                 |
| P5  | 200  | 235  | 250  | 270  | 270  | 190  | 225  | 240  | 260  | 255  | Steel and cast iron             |
|     | 660  | 770  | 820  | 890  | 890  | 620  | 740  | 790  | 850  | 840  |                                 |
| P6  | 225  | 265  | 280  | 305  | 305  | 215  | 255  | 270  | 290  | 290  | Steel and cast iron             |
|     | 740  | 870  | 920  | 1000 | 1000 | 710  | 840  | 890  | 950  | 950  |                                 |
| P7  | 210  | 250  | 265  | 290  | 285  | 200  | 240  | 255  | 275  | 270  | Stainless steel and S-materials |
|     | 690  | 820  | 870  | 950  | 940  | 660  | 790  | 840  | 900  | 890  |                                 |
| P8  | 200  | 235  | 250  | 270  | 265  | 190  | 225  | 235  | 255  | 255  | Stainless steel and S-materials |
|     | 660  | 770  | 820  | 890  | 870  | 620  | 740  | 770  | 840  | 840  |                                 |
| P11 | 205  | 245  | 260  | 280  | 275  | 195  | 230  | 245  | 265  | 265  | Stainless steel and S-materials |
|     | 670  | 800  | 850  | 920  | 900  | 640  | 750  | 800  | 870  | 870  |                                 |
| P12 | 130  | 155  | 160  | 175  | 175  | 125  | 150  | 155  | 165  | 165  | Stainless steel and S-materials |
|     | 425  | 510  | 520  | 570  | 570  | 410  | 490  | 510  | 540  | 540  |                                 |
| M1  | 220  | 260  | 275  | 300  | 295  | 210  | 250  | 265  | 285  | 280  | Stainless steel and S-materials |
|     | 720  | 850  | 900  | 980  | 970  | 690  | 820  | 870  | 940  | 920  |                                 |
| M2  | 180  | 215  | 225  | 245  | 245  | 170  | 205  | 215  | 235  | 230  | Stainless steel and S-materials |
|     | 590  | 710  | 740  | 800  | 800  | 560  | 670  | 710  | 770  | 750  |                                 |
| M3  | 145  | 170  | 175  | 190  | 190  | 135  | 165  | 170  | 180  | 180  | Stainless steel and S-materials |
|     | 475  | 560  | 570  | 620  | 620  | 445  | 540  | 560  | 590  | 590  |                                 |
| M4  | 100  | 135  | 135  | 145  | 145  | 95   | 130  | 130  | 140  | 140  | Stainless steel and S-materials |
|     | 330  | 445  | 475  | 475  | 475  | 310  | 425  | 445  | 460  | 460  |                                 |
| M5  | 80   | 115  | 115  | 120  | 120  | 80   | 110  | 105  | 115  | 115  | Non ferrous                     |
|     | 260  | 375  | 395  | 395  | 395  | 260  | 360  | 375  | 375  | 375  |                                 |
| K1  | 215  | 255  | 270  | 295  | 290  | 205  | 245  | 260  | 280  | 275  | Non ferrous                     |
|     | 710  | 840  | 890  | 970  | 950  | 670  | 800  | 850  | 920  | 900  |                                 |
| K2  | 190  | 225  | 240  | 260  | 255  | 180  | 215  | 225  | 245  | 245  | Non ferrous                     |
|     | 620  | 740  | 790  | 850  | 840  | 590  | 710  | 740  | 800  | 800  |                                 |
| K3  | 160  | 190  | 200  | 220  | 215  | 155  | 180  | 190  | 210  | 205  | Non ferrous                     |
|     | 520  | 620  | 660  | 720  | 710  | 510  | 590  | 620  | 690  | 670  |                                 |
| K4  | 155  | 180  | 190  | 210  | 205  | 145  | 175  | 185  | 200  | 195  | Hard                            |
|     | 510  | 590  | 620  | 690  | 670  | 475  | 570  | 610  | 660  | 640  |                                 |
| K5  | 90   | 110  | 115  | 125  | 125  | 90   | 105  | 110  | 120  | 120  | Hard                            |
|     | 295  | 360  | 375  | 410  | 410  | 295  | 345  | 360  | 395  | 395  |                                 |
| K6  | 135  | 160  | 170  | 185  | 180  | 130  | 150  | 160  | 175  | 175  | Hard                            |
|     | 445  | 520  | 560  | 610  | 590  | 425  | 490  | 520  | 570  | 570  |                                 |
| K7  | 120  | 140  | 150  | 160  | 160  | 110  | 135  | 140  | 155  | 155  | Hard                            |
|     | 395  | 460  | 490  | 520  | 520  | 360  | 445  | 460  | 510  | 510  |                                 |
| N1  | 1625 | 1950 | 2075 | 2225 | 2200 | 1550 | 1850 | 1975 | 2125 | 2100 | Graphite                        |
|     | 5325 | 6400 | 6800 | 7300 | 7225 | 5075 | 6075 | 6475 | 6975 | 6900 |                                 |
| N2  | 660  | 790  | 830  | 900  | 890  | 630  | 750  | 790  | 850  | 840  | Graphite                        |
|     | 2175 | 2600 | 2725 | 2950 | 2925 | 2075 | 2450 | 2600 | 2800 | 2750 |                                 |
| N3  | 440  | 520  | 560  | 600  | 590  | 420  | 500  | 530  | 570  | 560  | Graphite                        |
|     | 1450 | 1700 | 1825 | 1975 | 1925 | 1375 | 1650 | 1750 | 1875 | 1825 |                                 |
| N11 | 500  | 600  | 640  | 680  | 670  | 480  | 570  | 610  | 650  | 640  | Graphite                        |
|     | 1650 | 1975 | 2100 | 2225 | 2200 | 1575 | 1875 | 2000 | 2125 | 2100 |                                 |
| S1  | 46   | 65   | 65   | 70   | 70   | 44   | 60   | 60   | 65   | 65   | X-Heads                         |
|     | 150  | 215  | 215  | 230  | 230  | 145  | 195  | 215  | 215  | 215  |                                 |
| S2  | 37   | 50   | 50   | 55   | 55   | 35   | 49   | 48   | 50   | 50   | X-Heads                         |
|     | 120  | 165  | 180  | 180  | 180  | 115  | 160  | 165  | 165  | 165  |                                 |
| S3  | 32   | 45   | 44   | 48   | 48   | 31   | 43   | 42   | 45   | 45   | X-Heads                         |
|     | 105  | 150  | 155  | 155  | 155  | 100  | 140  | 150  | 150  | 150  |                                 |
| S11 | 70   | 90   | 90   | 95   | 95   | 65   | 85   | 85   | 90   | 90   | X-Heads                         |
|     | 230  | 295  | 295  | 310  | 310  | 215  | 280  | 280  | 295  | 295  |                                 |
| S12 | 49   | 60   | 60   | 65   | 65   | 47   | 60   | 60   | 65   | 65   | Minimaster                      |
|     | 160  | 195  | 215  | 215  | 215  | 155  | 195  | 195  | 215  | 215  |                                 |
| S13 | 26   | 36   | 35   | 38   | 38   | 25   | 34   | 34   | 36   | 37   | Minimaster                      |
|     | 85   | 120  | 125  | 125  | 125  | 80   | 110  | 120  | 120  | 120  |                                 |
| H5  | 43   | 50   | 55   | 60   | 55   | 41   | 49   | 50   | 55   | 55   | Minimaster                      |
|     | 140  | 165  | 180  | 195  | 180  | 135  | 160  | 165  | 180  | 180  |                                 |
| H8  | 43   | 55   | 55   | 60   | 60   | 41   | 50   | 50   | 55   | 55   | Minimaster                      |
|     | 140  | 180  | 180  | 195  | 195  | 135  | 165  | 180  | 180  | 180  |                                 |
| H11 | 55   | 65   | 70   | 75   | 75   | 50   | 60   | 65   | 70   | 70   | Minimaster                      |
|     | 180  | 215  | 230  | 245  | 245  | 165  | 195  | 215  | 230  | 230  |                                 |
| H12 | 75   | 95   | 100  | 105  | 105  | 75   | 95   | 95   | 100  | 100  | Minimaster                      |
|     | 245  | 310  | 330  | 345  | 345  | 245  | 310  | 310  | 330  | 330  |                                 |
| H21 | 43   | 55   | 55   | 60   | 60   | 41   | 50   | 50   | 55   | 55   | Minimaster                      |
|     | 140  | 180  | 180  | 195  | 195  | 135  | 165  | 180  | 180  | 180  |                                 |

### MM08 Z2 – Copy milling – Insert selection – Roughing – mm/Inch

|                                 | SMG |                          | $a_p$        | $f_z$            |                  |                 |                 |
|---------------------------------|-----|--------------------------|--------------|------------------|------------------|-----------------|-----------------|
|                                 |     |                          |              | 100%             | 40%              | 20%             | 10%             |
| Universal                       | P1  | MM08-08008-B90S-E03 F30M | 3,0<br>0,12  | 0,048<br>0,0019  | 0,046<br>0,0018  | 0,055<br>0,0022 | 0,070<br>0,0028 |
|                                 | P2  | MM08-08008-B90S-E03 F30M | 3,0<br>0,12  | 0,048<br>0,0019  | 0,048<br>0,0019  | 0,055<br>0,0022 | 0,075<br>0,0030 |
| Steel and cast iron             | P3  | MM08-08008-B90S-E03 F30M | 3,0<br>0,12  | 0,046<br>0,0018  | 0,044<br>0,0017  | 0,050<br>0,0020 | 0,070<br>0,0028 |
|                                 | P4  | MM08-08008-B90-MD03 F30M | 3,0<br>0,12  | 0,044<br>0,0017  | 0,044<br>0,0017  | 0,050<br>0,0020 | 0,070<br>0,0028 |
|                                 | P5  | MM08-08008-B90-MD03 F30M | 3,0<br>0,12  | 0,044<br>0,0017  | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,065<br>0,0026 |
|                                 | P6  | MM08-08008-B90-MD03 F30M | 3,0<br>0,12  | 0,044<br>0,0017  | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,065<br>0,0026 |
|                                 | P7  | MM08-08008-B90-MD03 F30M | 3,0<br>0,12  | 0,044<br>0,0017  | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,065<br>0,0026 |
|                                 | P8  | MM08-08008-B90-MD03 F30M | 3,0<br>0,12  | 0,046<br>0,0018  | 0,044<br>0,0017  | 0,050<br>0,0020 | 0,070<br>0,0028 |
| Stainless steel and S-materials | P11 | MM08-08008-B90-MD03 F30M | 3,0<br>0,12  | 0,044<br>0,0017  | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,065<br>0,0026 |
|                                 | P12 | MM08-08008-B90-MD03 F30M | 2,5<br>0,10  | 0,030<br>0,0012  | 0,030<br>0,0012  | 0,034<br>0,0013 | 0,044<br>0,0018 |
|                                 | M1  | MM08-08008-B90S-E03 F30M | 3,0<br>0,12  | 0,048<br>0,0019  | 0,048<br>0,0019  | 0,055<br>0,0022 | 0,075<br>0,0030 |
|                                 | M2  | MM08-08008-B90S-E03 F30M | 3,0<br>0,12  | 0,044<br>0,0017  | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,065<br>0,0026 |
| Non ferrous                     | M3  | MM08-08008-B90S-E03 F30M | 2,5<br>0,10  | 0,036<br>0,0014  | 0,036<br>0,0014  | 0,040<br>0,0016 | 0,055<br>0,0022 |
|                                 | M4  | MM08-08008-B90-MD03 F30M | 1,9<br>0,075 | 0,034<br>0,0013  | 0,034<br>0,0013  | 0,036<br>0,0014 | 0,046<br>0,0019 |
|                                 | M5  | MM08-08008-B90-MD03 F30M | 1,9<br>0,075 | 0,034<br>0,0013  | 0,034<br>0,0013  | 0,036<br>0,0014 | 0,046<br>0,0019 |
|                                 | K1  | MM08-08008-B90S-E03 F30M | 3,0<br>0,12  | 0,048<br>0,0019  | 0,048<br>0,0019  | 0,055<br>0,0022 | 0,075<br>0,0030 |
|                                 | K2  | MM08-08008-B90S-E03 F30M | 3,0<br>0,12  | 0,044<br>0,0017  | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,065<br>0,0026 |
| Hard                            | K3  | MM08-08008-B90S-E03 F30M | 3,0<br>0,12  | 0,044<br>0,0017  | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,065<br>0,0026 |
|                                 | K4  | MM08-08008-B90S-E03 F30M | 3,0<br>0,12  | 0,044<br>0,0017  | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,065<br>0,0026 |
|                                 | K5  | MM08-08008-B90-MD03 F30M | 3,0<br>0,12  | 0,040<br>0,0016  | 0,038<br>0,0015  | 0,046<br>0,0018 | 0,060<br>0,0024 |
|                                 | K6  | MM08-08008-B90-MD03 F30M | 3,0<br>0,12  | 0,044<br>0,0017  | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,065<br>0,0026 |
|                                 | K7  | MM08-08008-B90-MD03 F30M | 3,0<br>0,12  | 0,040<br>0,0016  | 0,038<br>0,0015  | 0,046<br>0,0018 | 0,060<br>0,0024 |
| Plastic and cfrp                | N1  | MM08-08008-B90S-E03 F30M | 3,0<br>0,12  | 0,060<br>0,0024  | 0,060<br>0,0024  | 0,070<br>0,0028 | 0,095<br>0,0038 |
|                                 | N2  | MM08-08008-B90S-E03 F30M | 3,0<br>0,12  | 0,060<br>0,0024  | 0,060<br>0,0024  | 0,070<br>0,0028 | 0,095<br>0,0038 |
|                                 | N3  | MM08-08008-B90S-E03 F30M | 3,0<br>0,12  | 0,060<br>0,0024  | 0,060<br>0,0024  | 0,070<br>0,0028 | 0,095<br>0,0038 |
|                                 | N11 | MM08-08008-B90S-E03 F30M | 3,0<br>0,12  | 0,060<br>0,0024  | 0,060<br>0,0024  | 0,070<br>0,0028 | 0,095<br>0,0038 |
| Graphite                        | S1  | MM08-08008-B90-MD03 F30M | 1,9<br>0,075 | 0,034<br>0,0013  | 0,034<br>0,0013  | 0,036<br>0,0014 | 0,046<br>0,0019 |
|                                 | S2  | MM08-08008-B90-MD03 F30M | 1,9<br>0,075 | 0,034<br>0,0013  | 0,034<br>0,0013  | 0,036<br>0,0014 | 0,046<br>0,0019 |
|                                 | S3  | MM08-08008-B90-MD03 F30M | 1,9<br>0,075 | 0,032<br>0,0013  | 0,030<br>0,0012  | 0,034<br>0,0013 | 0,042<br>0,0017 |
|                                 | S11 | MM08-08008-B90-MD03 F30M | 2,5<br>0,10  | 0,036<br>0,0014  | 0,036<br>0,0014  | 0,042<br>0,0017 | 0,055<br>0,0022 |
| X-Heads                         | S12 | MM08-08008-B90-MD03 F30M | 2,5<br>0,10  | 0,036<br>0,0014  | 0,036<br>0,0014  | 0,042<br>0,0017 | 0,055<br>0,0022 |
|                                 | S13 | MM08-08008-B90-MD03 F30M | 1,9<br>0,075 | 0,034<br>0,0013  | 0,034<br>0,0013  | 0,036<br>0,0014 | 0,046<br>0,0019 |
|                                 | H5  | MM08-08008-B90-MD03 F30M | 2,5<br>0,10  | 0,030<br>0,0012  | 0,030<br>0,0012  | 0,034<br>0,0013 | 0,044<br>0,0018 |
|                                 | H8  | MM08-08008-B90-MD03 F30M | 2,5<br>0,10  | 0,024<br>0,00095 | 0,024<br>0,00095 | 0,026<br>0,0010 | 0,034<br>0,0013 |
| Minimaster                      | H11 | MM08-08008-B90-MD03 F30M | 2,5<br>0,10  | 0,030<br>0,0012  | 0,030<br>0,0012  | 0,034<br>0,0013 | 0,044<br>0,0018 |
|                                 | H12 | MM08-08008-B90-MD03 F30M | 2,5<br>0,10  | 0,024<br>0,00095 | 0,024<br>0,00095 | 0,026<br>0,0010 | 0,034<br>0,0013 |
|                                 | H21 | MM08-08008-B90-MD03 F30M | 2,5<br>0,10  | 0,024<br>0,00095 | 0,024<br>0,00095 | 0,026<br>0,0010 | 0,034<br>0,0013 |

SMG = Seco material group  
 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %  
 All cutting data are start values

**MM08 Z2 – Copy milling – Insert selection – Finishing – mm/Inch**

| SMG |                           | $a_p$ | $f_z$   |         |         |        |
|-----|---------------------------|-------|---------|---------|---------|--------|
|     |                           |       | 15%     | 10%     | 5%      | 2%     |
| P1  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,020   | 0,024   | 0,032   | 0,050  |
|     |                           | 0.12  | 0.00080 | 0.00095 | 0.0013  | 0.0020 |
| P2  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,020   | 0,024   | 0,034   | 0,055  |
|     |                           | 0.12  | 0.00080 | 0.00095 | 0.0013  | 0.0022 |
| P3  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,019   | 0,022   | 0,032   | 0,050  |
|     |                           | 0.12  | 0.00075 | 0.00085 | 0.0013  | 0.0020 |
| P4  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,019   | 0,022   | 0,030   | 0,048  |
|     |                           | 0.12  | 0.00075 | 0.00085 | 0.0012  | 0.0019 |
| P5  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,019   | 0,022   | 0,030   | 0,048  |
|     |                           | 0.12  | 0.00075 | 0.00085 | 0.0012  | 0.0019 |
| P6  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,018   | 0,022   | 0,030   | 0,048  |
|     |                           | 0.12  | 0.00070 | 0.00085 | 0.0012  | 0.0019 |
| P7  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,018   | 0,022   | 0,030   | 0,048  |
|     |                           | 0.12  | 0.00070 | 0.00085 | 0.0012  | 0.0019 |
| P8  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,019   | 0,022   | 0,032   | 0,050  |
|     |                           | 0.12  | 0.00075 | 0.00085 | 0.0013  | 0.0020 |
| P11 | MM08-08008-B90PF-M01 F15M | 3,0   | 0,018   | 0,022   | 0,030   | 0,048  |
|     |                           | 0.12  | 0.00070 | 0.00085 | 0.0012  | 0.0019 |
| P12 | MM08-08008-B90PF-M01 F15M | 2,0   | 0,013   | 0,015   | 0,020   | 0,032  |
|     |                           | 0.080 | 0.00050 | 0.00060 | 0.00080 | 0.0013 |
| M1  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,020   | 0,024   | 0,034   | 0,055  |
|     |                           | 0.12  | 0.00080 | 0.00095 | 0.0013  | 0.0022 |
| M2  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,019   | 0,022   | 0,030   | 0,048  |
|     |                           | 0.12  | 0.00075 | 0.00085 | 0.0012  | 0.0019 |
| M3  | MM08-08008-B90PF-M01 F15M | 2,0   | 0,015   | 0,018   | 0,024   | 0,038  |
|     |                           | 0.080 | 0.00060 | 0.00070 | 0.00095 | 0.0015 |
| M4  | MM08-08008-B90PF-M01 F15M | 1,7   | 0,014   | 0,015   | 0,022   | 0,034  |
|     |                           | 0.065 | 0.00055 | 0.00065 | 0.00085 | 0.0013 |
| M5  | MM08-08008-B90PF-M01 F15M | 1,7   | 0,014   | 0,015   | 0,022   | 0,034  |
|     |                           | 0.065 | 0.00055 | 0.00065 | 0.00085 | 0.0013 |
| K1  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,020   | 0,024   | 0,034   | 0,055  |
|     |                           | 0.12  | 0.00080 | 0.00095 | 0.0013  | 0.0022 |
| K2  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,019   | 0,022   | 0,030   | 0,048  |
|     |                           | 0.12  | 0.00075 | 0.00085 | 0.0012  | 0.0019 |
| K3  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,019   | 0,022   | 0,030   | 0,048  |
|     |                           | 0.12  | 0.00075 | 0.00085 | 0.0012  | 0.0019 |
| K4  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,019   | 0,022   | 0,030   | 0,048  |
|     |                           | 0.12  | 0.00075 | 0.00085 | 0.0012  | 0.0019 |
| K5  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,017   | 0,020   | 0,028   | 0,044  |
|     |                           | 0.12  | 0.00065 | 0.00080 | 0.0011  | 0.0017 |
| K6  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,019   | 0,022   | 0,030   | 0,048  |
|     |                           | 0.12  | 0.00075 | 0.00085 | 0.0012  | 0.0019 |
| K7  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,017   | 0,020   | 0,028   | 0,044  |
|     |                           | 0.12  | 0.00065 | 0.00080 | 0.0011  | 0.0017 |
| N1  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,026   | 0,030   | 0,042   | 0,070  |
|     |                           | 0.12  | 0.0010  | 0.0012  | 0.0017  | 0.0028 |
| N2  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,026   | 0,030   | 0,042   | 0,070  |
|     |                           | 0.12  | 0.0010  | 0.0012  | 0.0017  | 0.0028 |
| N3  | MM08-08008-B90PF-M01 F15M | 3,0   | 0,026   | 0,030   | 0,042   | 0,070  |
|     |                           | 0.12  | 0.0010  | 0.0012  | 0.0017  | 0.0028 |
| N11 | MM08-08008-B90PF-M01 F15M | 3,0   | 0,026   | 0,030   | 0,042   | 0,070  |
|     |                           | 0.12  | 0.0010  | 0.0012  | 0.0017  | 0.0028 |
| S1  | MM08-08008-B90PF-M01 F15M | 1,7   | 0,014   | 0,015   | 0,022   | 0,034  |
|     |                           | 0.065 | 0.00055 | 0.00065 | 0.00085 | 0.0013 |
| S2  | MM08-08008-B90PF-M01 F15M | 1,7   | 0,014   | 0,015   | 0,022   | 0,034  |
|     |                           | 0.065 | 0.00055 | 0.00065 | 0.00085 | 0.0013 |
| S3  | MM08-08008-B90PF-M01 F15M | 1,7   | 0,013   | 0,014   | 0,020   | 0,030  |
|     |                           | 0.065 | 0.00050 | 0.00060 | 0.00080 | 0.0012 |
| S11 | MM08-08008-B90PF-M01 F15M | 1,9   | 0,015   | 0,018   | 0,024   | 0,038  |
|     |                           | 0.075 | 0.00060 | 0.00070 | 0.00095 | 0.0015 |
| S12 | MM08-08008-B90PF-M01 F15M | 1,9   | 0,015   | 0,018   | 0,024   | 0,038  |
|     |                           | 0.075 | 0.00060 | 0.00070 | 0.00095 | 0.0015 |
| S13 | MM08-08008-B90PF-M01 F15M | 1,7   | 0,014   | 0,015   | 0,022   | 0,034  |
|     |                           | 0.065 | 0.00055 | 0.00065 | 0.00085 | 0.0013 |
| H5  | MM08-08008-B90PF-M01 F15M | 2,0   | 0,013   | 0,015   | 0,020   | 0,032  |
|     |                           | 0.080 | 0.00050 | 0.00060 | 0.00080 | 0.0013 |
| H8  | MM08-08008-B90PF-M01 F15M | 1,9   | 0,010   | 0,011   | 0,016   | 0,025  |
|     |                           | 0.075 | 0.00040 | 0.00048 | 0.00065 | 0.0010 |
| H11 | MM08-08008-B90PF-M01 F15M | 2,0   | 0,013   | 0,015   | 0,020   | 0,032  |
|     |                           | 0.080 | 0.00050 | 0.00060 | 0.00080 | 0.0013 |
| H12 | MM08-08008-B90PF-M01 F15M | 1,9   | 0,010   | 0,011   | 0,016   | 0,025  |
|     |                           | 0.075 | 0.00040 | 0.00048 | 0.00065 | 0.0010 |
| H21 | MM08-08008-B90PF-M01 F15M | 1,9   | 0,010   | 0,011   | 0,016   | 0,025  |
|     |                           | 0.075 | 0.00040 | 0.00048 | 0.00065 | 0.0010 |

SMG = Seco material group  
 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %  
 All cutting data are start values

Universal  
 Steel and cast iron  
 Stainless steel and S-materials  
 Stainless steel and S-materials  
 Non ferrous  
 Hard  
 Graphite  
 X-Heads  
 Minimaster

MM08 Z2 – Copy milling – Cutting data  $v_c = (m/min)/(sf/min)$ 

|                                 | SMG | F15M |      |      |      |      | F30M |      |      |      |      | T60M |      |      |      |      |
|---------------------------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|                                 |     | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   |
| Universal                       | P1  | 320  | 405  | 430  | 465  | 465  | 265  | 330  | 360  | 385  | 385  | 215  | 265  | 290  | 315  | 310  |
|                                 |     | 1050 | 1325 | 1400 | 1525 | 1525 | 870  | 1075 | 1175 | 1275 | 1275 | 710  | 870  | 950  | 1025 | 1025 |
| Steel and cast iron             | P2  | 315  | 395  | 420  | 450  | 450  | 260  | 320  | 345  | 375  | 370  | 210  | 260  | 280  | 305  | 300  |
|                                 |     | 1025 | 1300 | 1375 | 1475 | 1475 | 850  | 1050 | 1125 | 1225 | 1225 | 690  | 850  | 920  | 1000 | 980  |
|                                 | P3  | 270  | 340  | 360  | 390  | 390  | 225  | 280  | 300  | 325  | 325  | 180  | 225  | 245  | 265  | 260  |
|                                 |     | 890  | 1125 | 1175 | 1275 | 1275 | 740  | 920  | 980  | 1075 | 1075 | 590  | 740  | 800  | 870  | 850  |
|                                 | P4  | 240  | 300  | 320  | 345  | 345  | 200  | 245  | 265  | 285  | 285  | 160  | 200  | 215  | 230  | 230  |
|                                 |     | 790  | 980  | 1050 | 1125 | 1125 | 660  | 800  | 870  | 940  | 940  | 520  | 660  | 710  | 750  | 750  |
|                                 | P5  | 225  | 285  | 305  | 330  | 330  | 190  | 235  | 255  | 275  | 275  | 155  | 190  | 205  | 220  | 220  |
|                                 |     | 740  | 940  | 1000 | 1075 | 1075 | 620  | 770  | 840  | 900  | 900  | 510  | 620  | 670  | 720  | 720  |
|                                 | P6  | 255  | 320  | 340  | 370  | 370  | 210  | 265  | 285  | 310  | 305  | 170  | 215  | 230  | 250  | 250  |
|                                 |     | 840  | 1050 | 1125 | 1225 | 1225 | 690  | 870  | 940  | 1025 | 1000 | 560  | 710  | 750  | 820  | 820  |
| Stainless steel and S-materials | P7  | 240  | 300  | 320  | 350  | 350  | 200  | 250  | 270  | 295  | 290  | 160  | 200  | 220  | 235  | 235  |
|                                 |     | 790  | 980  | 1050 | 1150 | 1150 | 660  | 820  | 890  | 970  | 950  | 520  | 660  | 720  | 770  | 770  |
|                                 | P8  | 225  | 285  | 305  | 330  | 330  | 190  | 235  | 250  | 275  | 270  | 150  | 190  | 205  | 220  | 220  |
|                                 |     | 740  | 940  | 1000 | 1075 | 1075 | 620  | 770  | 820  | 900  | 890  | 490  | 620  | 670  | 720  | 720  |
|                                 | P11 | 235  | 295  | 315  | 340  | 340  | 195  | 240  | 260  | 285  | 280  | 160  | 195  | 210  | 230  | 230  |
|                                 |     | 770  | 970  | 1025 | 1125 | 1125 | 640  | 790  | 850  | 940  | 920  | 520  | 640  | 690  | 750  | 750  |
|                                 | P12 | 145  | 185  | 185  | 200  | 200  | 125  | 155  | 165  | 175  | 175  | 100  | 125  | 130  | 145  | 140  |
|                                 |     | 475  | 610  | 620  | 660  | 660  | 410  | 510  | 540  | 570  | 570  | 330  | 410  | 445  | 475  | 460  |
| Non ferrous                     | M1  | 250  | 315  | 335  | 365  | 365  | 210  | 260  | 280  | 305  | 300  | 170  | 210  | 225  | 245  | 240  |
|                                 |     | 820  | 1025 | 1100 | 1200 | 1200 | 690  | 850  | 920  | 1000 | 980  | 560  | 690  | 740  | 800  | 790  |
|                                 | M2  | 205  | 255  | 275  | 295  | 295  | 170  | 210  | 230  | 245  | 245  | 140  | 170  | 185  | 200  | 200  |
|                                 |     | 670  | 840  | 900  | 970  | 970  | 560  | 690  | 750  | 800  | 800  | 460  | 560  | 610  | 660  | 660  |
|                                 | M3  | 165  | 205  | 210  | 225  | 225  | 135  | 175  | 180  | 195  | 195  | 110  | 140  | 145  | 155  | 155  |
|                                 |     | 540  | 670  | 710  | 740  | 740  | 445  | 570  | 590  | 640  | 640  | 360  | 460  | 475  | 510  | 510  |
|                                 | M4  | 125  | 160  | 160  | 170  | 170  | 110  | 140  | 135  | 150  | 150  | 85   | 110  | 110  | 120  | 120  |
|                                 |     | 410  | 520  | 560  | 560  | 560  | 360  | 460  | 475  | 490  | 490  | 280  | 360  | 375  | 395  | 395  |
|                                 | M5  | 105  | 135  | 130  | 140  | 140  | 90   | 115  | 115  | 125  | 125  | 75   | 95   | 90   | 100  | 100  |
|                                 |     | 345  | 445  | 460  | 460  | 460  | 295  | 375  | 395  | 410  | 410  | 245  | 310  | 330  | 330  | 330  |
| Hard                            | K1  | 250  | 310  | 330  | 360  | 355  | 205  | 255  | 275  | 300  | 295  | 165  | 205  | 220  | 240  | 240  |
|                                 |     | 820  | 1025 | 1075 | 1175 | 1175 | 670  | 840  | 900  | 980  | 970  | 540  | 670  | 720  | 790  | 790  |
|                                 | K2  | 215  | 270  | 290  | 310  | 310  | 180  | 225  | 240  | 260  | 260  | 145  | 180  | 195  | 210  | 210  |
|                                 |     | 710  | 890  | 950  | 1025 | 1025 | 590  | 740  | 790  | 850  | 850  | 475  | 590  | 640  | 690  | 690  |
|                                 | K3  | 180  | 230  | 245  | 265  | 265  | 150  | 190  | 205  | 220  | 220  | 125  | 155  | 165  | 180  | 180  |
|                                 |     | 590  | 750  | 800  | 870  | 870  | 490  | 620  | 670  | 720  | 720  | 410  | 510  | 540  | 590  | 590  |
| Plastic and cfrp                | K4  | 175  | 220  | 235  | 250  | 250  | 145  | 180  | 195  | 210  | 210  | 115  | 145  | 160  | 170  | 170  |
|                                 |     | 570  | 720  | 770  | 820  | 820  | 475  | 590  | 640  | 690  | 690  | 375  | 475  | 520  | 560  | 560  |
|                                 | K5  | 105  | 130  | 140  | 150  | 150  | 90   | 110  | 120  | 125  | 125  | 70   | 90   | 95   | 105  | 105  |
|                                 |     | 345  | 425  | 460  | 490  | 490  | 295  | 360  | 395  | 410  | 410  | 230  | 295  | 310  | 345  | 345  |
|                                 | K6  | 155  | 190  | 205  | 220  | 220  | 130  | 160  | 170  | 185  | 185  | 105  | 130  | 140  | 150  | 150  |
|                                 |     | 510  | 620  | 670  | 720  | 720  | 425  | 520  | 560  | 610  | 610  | 345  | 425  | 460  | 490  | 490  |
|                                 | K7  | 135  | 165  | 180  | 195  | 195  | 110  | 140  | 150  | 165  | 165  | 90   | 110  | 120  | 130  | 130  |
|                                 |     | 445  | 540  | 590  | 640  | 640  | 360  | 460  | 490  | 540  | 540  | 295  | 360  | 395  | 425  | 425  |
| Graphite                        | N1  | 1925 | 2425 | 2575 | 2800 | 2775 | 1550 | 1925 | 2075 | 2250 | 2225 | 1250 | 1550 | 1675 | 1825 | 1800 |
|                                 |     | 6325 | 7950 | 8450 | 9175 | 9100 | 5075 | 6325 | 6800 | 7375 | 7300 | 4100 | 5075 | 5500 | 6000 | 5900 |
|                                 | N2  | 780  | 980  | 1050 | 1125 | 1125 | 630  | 780  | 840  | 910  | 900  | 510  | 630  | 680  | 740  | 730  |
|                                 |     | 2550 | 3225 | 3450 | 3700 | 3700 | 2075 | 2550 | 2750 | 2975 | 2950 | 1675 | 2075 | 2225 | 2425 | 2400 |
|                                 | N3  | 520  | 650  | 700  | 750  | 750  | 420  | 520  | 560  | 610  | 600  | 340  | 420  | 455  | 490  | 485  |
|                                 |     | 1700 | 2125 | 2300 | 2450 | 2450 | 1375 | 1700 | 1825 | 2000 | 1975 | 1125 | 1375 | 1500 | 1600 | 1600 |
|                                 | N11 | 590  | 740  | 800  | 860  | 860  | 480  | 590  | 640  | 700  | 690  | 390  | 480  | 520  | 560  | 560  |
|                                 |     | 1925 | 2425 | 2625 | 2825 | 2825 | 1575 | 1925 | 2100 | 2300 | 2275 | 1275 | 1575 | 1700 | 1825 | 1825 |
| X-Heads                         | S1  | 60   | 75   | 75   | 80   | 80   | 50   | 65   | 65   | 70   | 70   | 41   | 50   | 50   | 55   | 55   |
|                                 |     | 195  | 245  | 260  | 260  | 260  | 165  | 215  | 230  | 230  | 230  | 135  | 165  | 180  | 180  | 180  |
|                                 | S2  | 47   | 60   | 60   | 65   | 65   | 40   | 50   | 50   | 55   | 55   | 33   | 42   | 42   | 45   | 45   |
|                                 |     | 155  | 195  | 215  | 215  | 215  | 130  | 165  | 180  | 180  | 180  | 110  | 140  | 145  | 150  | 150  |
|                                 | S3  | 40   | 50   | 50   | 55   | 55   | 35   | 45   | 45   | 48   | 48   | 28   | 36   | 36   | 39   | 39   |
|                                 |     | 130  | 165  | 180  | 180  | 180  | 115  | 150  | 155  | 155  | 155  | 90   | 120  | 125  | 130  | 130  |
|                                 | S11 | 85   | 105  | 105  | 115  | 115  | 70   | 90   | 90   | 100  | 100  | 55   | 75   | 75   | 80   | 80   |
|                                 |     | 280  | 345  | 360  | 375  | 375  | 230  | 295  | 310  | 330  | 330  | 180  | 245  | 245  | 260  | 260  |
|                                 | S12 | 60   | 75   | 75   | 80   | 80   | 48   | 60   | 65   | 70   | 70   | 39   | 50   | 50   | 55   | 55   |
|                                 |     | 195  | 245  | 245  | 260  | 260  | 155  | 195  | 215  | 230  | 230  | 130  | 165  | 180  | 180  | 180  |
| Minimaster                      | S13 | 33   | 42   | 42   | 45   | 45   | 28   | 36   | 36   | 39   | 39   | 23   | 29   | 29   | 31   | 32   |
|                                 |     | 110  | 140  | 150  | 150  | 150  | 90   | 120  | 125  | 130  | 130  | 75   | 95   | 100  | 100  | 105  |
|                                 | H5  | 48   | 60   | 60   | 65   | 65   | 41   | 50   | 55   | 60   | 60   | 33   | 42   | 44   | 47   | 47   |
|                                 |     | 155  | 195  | 215  | 215  | 215  | 135  | 165  | 180  | 195  | 195  | 110  | 140  | 145  | 155  | 155  |
|                                 | H8  | 49   | 60   | 60   | 65   | 65   | 42   | 55   | 55   | 60   | 60   | 34   | 44   | 45   | 48   | 48   |
|                                 |     | 160  | 195  | 215  | 215  | 215  | 140  | 180  | 180  | 195  | 195  | 110  | 145  | 150  | 155  | 155  |
|                                 | H11 | 60   | 80   | 80   | 85   | 85   | 55   | 65   | 70   | 75   | 75   | 43   | 55   | 55   | 60   | 60   |
|                                 |     | 195  | 260  | 260  | 280  | 280  | 180  | 215  | 230  | 245  | 245  | 140  | 180  | 180  | 195  | 195  |
|                                 | H12 | 85   | 110  | 110  | 120  | 120  | 75   | 100  | 100  | 105  | 105  | 60   | 80   | 80   | 85   | 85   |
|                                 |     | 280  | 360  | 375  | 395  | 395  | 245  | 330  | 345  | 345  | 345  | 195  | 260  | 280  | 280  | 280  |
|                                 | H21 | 49   | 60   | 60   | 65   | 65   | 42   | 55   | 55   | 60   | 60   | 34   | 44   | 45   | 48   | 48   |
|                                 |     | 160  | 195  | 215  | 215  | 215  | 140  | 180  | 180  | 195  | 195  | 110  | 145  | 150  | 155  | 155  |



**MM08 High-Feed – Insert selection – mm/Inch**

| SMG |                         | $a_p$  | $f_z$  |        |        |        |
|-----|-------------------------|--------|--------|--------|--------|--------|
|     |                         |        | 100%   | 70%    | 30%    | 20%    |
| P1  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,32   | 0,32   | 0,42   | 0,50   |
|     |                         | 0.010  | 0.013  | 0.013  | 0.017  | 0.020  |
| P2  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,32   | 0,32   | 0,42   | 0,50   |
|     |                         | 0.010  | 0.013  | 0.013  | 0.017  | 0.020  |
| P3  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,30   | 0,30   | 0,40   | 0,48   |
|     |                         | 0.010  | 0.012  | 0.012  | 0.016  | 0.019  |
| P4  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,30   | 0,30   | 0,38   | 0,48   |
|     |                         | 0.010  | 0.012  | 0.012  | 0.015  | 0.019  |
| P5  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,28   | 0,30   | 0,38   | 0,46   |
|     |                         | 0.010  | 0.011  | 0.012  | 0.015  | 0.018  |
| P6  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,28   | 0,28   | 0,38   | 0,46   |
|     |                         | 0.010  | 0.011  | 0.011  | 0.015  | 0.018  |
| P7  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,28   | 0,28   | 0,38   | 0,46   |
|     |                         | 0.010  | 0.011  | 0.011  | 0.015  | 0.018  |
| P8  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,30   | 0,30   | 0,40   | 0,48   |
|     |                         | 0.010  | 0.012  | 0.012  | 0.016  | 0.019  |
| P11 | MM08-08.40-HF-MD06 F30M | 0,26   | 0,28   | 0,28   | 0,38   | 0,46   |
|     |                         | 0.010  | 0.011  | 0.011  | 0.015  | 0.018  |
| P12 | MM08-08.40-HF-MD06 F30M | 0,20   | 0,20   | 0,20   | 0,25   | 0,30   |
|     |                         | 0.0080 | 0.0080 | 0.0080 | 0.010  | 0.012  |
| M1  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,32   | 0,32   | 0,42   | 0,50   |
|     |                         | 0.010  | 0.013  | 0.013  | 0.017  | 0.020  |
| M2  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,28   | 0,30   | 0,38   | 0,46   |
|     |                         | 0.010  | 0.011  | 0.012  | 0.015  | 0.018  |
| M3  | MM08-08.40-HF-MD06 F30M | 0,20   | 0,24   | 0,24   | 0,30   | 0,36   |
|     |                         | 0.0080 | 0.0095 | 0.0095 | 0.012  | 0.014  |
| M4  | MM08-08.40-HF-MD06 F30M | 0,16   | 0,20   | 0,20   | 0,26   | 0,32   |
|     |                         | 0.0065 | 0.0080 | 0.0080 | 0.010  | 0.013  |
| M5  | MM08-08.40-HF-MD06 F30M | 0,16   | 0,20   | 0,20   | 0,26   | 0,32   |
|     |                         | 0.0065 | 0.0080 | 0.0080 | 0.010  | 0.013  |
| K1  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,32   | 0,32   | 0,42   | 0,50   |
|     |                         | 0.010  | 0.013  | 0.013  | 0.017  | 0.020  |
| K2  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,28   | 0,30   | 0,38   | 0,46   |
|     |                         | 0.010  | 0.011  | 0.012  | 0.015  | 0.018  |
| K3  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,28   | 0,30   | 0,38   | 0,46   |
|     |                         | 0.010  | 0.011  | 0.012  | 0.015  | 0.018  |
| K4  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,28   | 0,30   | 0,38   | 0,46   |
|     |                         | 0.010  | 0.011  | 0.012  | 0.015  | 0.018  |
| K5  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,26   | 0,26   | 0,34   | 0,42   |
|     |                         | 0.010  | 0.010  | 0.010  | 0.013  | 0.017  |
| K6  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,28   | 0,30   | 0,38   | 0,46   |
|     |                         | 0.010  | 0.011  | 0.012  | 0.015  | 0.018  |
| K7  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,26   | 0,26   | 0,34   | 0,42   |
|     |                         | 0.010  | 0.010  | 0.010  | 0.013  | 0.017  |
| N1  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,40   | 0,40   | 0,55   | 0,70   |
|     |                         | 0.010  | 0.016  | 0.016  | 0.022  | 0.028  |
| N2  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,40   | 0,40   | 0,55   | 0,70   |
|     |                         | 0.010  | 0.016  | 0.016  | 0.022  | 0.028  |
| N3  | MM08-08.40-HF-MD06 F30M | 0,26   | 0,40   | 0,40   | 0,55   | 0,70   |
|     |                         | 0.010  | 0.016  | 0.016  | 0.022  | 0.028  |
| N11 | MM08-08.40-HF-MD06 F30M | 0,26   | 0,40   | 0,40   | 0,55   | 0,70   |
|     |                         | 0.010  | 0.016  | 0.016  | 0.022  | 0.028  |
| S1  | MM08-08.40-HF-MD06 F30M | 0,16   | 0,20   | 0,20   | 0,26   | 0,32   |
|     |                         | 0.0065 | 0.0080 | 0.0080 | 0.010  | 0.013  |
| S2  | MM08-08.40-HF-MD06 F30M | 0,16   | 0,20   | 0,20   | 0,26   | 0,32   |
|     |                         | 0.0065 | 0.0080 | 0.0080 | 0.010  | 0.013  |
| S3  | MM08-08.40-HF-MD06 F30M | 0,16   | 0,19   | 0,19   | 0,24   | 0,30   |
|     |                         | 0.0065 | 0.0075 | 0.0075 | 0.0095 | 0.012  |
| S11 | MM08-08.40-HF-MD06 F30M | 0,18   | 0,24   | 0,24   | 0,30   | 0,36   |
|     |                         | 0.0070 | 0.0095 | 0.0095 | 0.012  | 0.014  |
| S12 | MM08-08.40-HF-MD06 F30M | 0,18   | 0,24   | 0,24   | 0,30   | 0,36   |
|     |                         | 0.0070 | 0.0095 | 0.0095 | 0.012  | 0.014  |
| S13 | MM08-08.40-HF-MD06 F30M | 0,16   | 0,20   | 0,20   | 0,26   | 0,32   |
|     |                         | 0.0065 | 0.0080 | 0.0080 | 0.010  | 0.013  |
| H5  | MM08-08.40-HF-MD06 F30M | 0,20   | 0,20   | 0,20   | 0,25   | 0,30   |
|     |                         | 0.0080 | 0.0080 | 0.0080 | 0.010  | 0.012  |
| H8  | MM08-08.40-HF-MD06 F30M | 0,18   | 0,16   | 0,15   | 0,19   | 0,24   |
|     |                         | 0.0070 | 0.0065 | 0.0060 | 0.0075 | 0.0095 |
| H11 | MM08-08.40-HF-MD06 F30M | 0,20   | 0,20   | 0,20   | 0,25   | 0,30   |
|     |                         | 0.0080 | 0.0080 | 0.0080 | 0.010  | 0.012  |
| H12 | MM08-08.40-HF-MD06 F30M | 0,18   | 0,16   | 0,15   | 0,19   | 0,24   |
|     |                         | 0.0070 | 0.0065 | 0.0060 | 0.0075 | 0.0095 |
| H21 | MM08-08.40-HF-MD06 F30M | 0,18   | 0,16   | 0,15   | 0,19   | 0,24   |
|     |                         | 0.0070 | 0.0065 | 0.0060 | 0.0075 | 0.0095 |

SMG = Seco material group

 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e/DC$  = %

All cutting data are start values

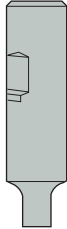
 Universal  
 Steel and cast iron  
 Stainless steel and S-materials  
 Stainless steel and S-materials  
 Non ferrous  
 Hard  
 Graphite  
 X-Heads  
 Minimaster

### MM08 High-Feed – Cutting data $v_c = (m/min)/(sf/min)$

|                                 | SMG | F30M         |              |              |              |
|---------------------------------|-----|--------------|--------------|--------------|--------------|
|                                 |     | 100%         | 70%          | 30%          | 20%          |
| Universal                       | P1  | 250<br>820   | 305<br>1000  | 350<br>1150  | 375<br>1225  |
|                                 | P2  | 245<br>800   | 300<br>980   | 345<br>1125  | 365<br>1200  |
| Steel and cast iron             | P3  | 215<br>710   | 260<br>850   | 300<br>980   | 315<br>1025  |
|                                 | P4  | 190<br>620   | 230<br>750   | 265<br>870   | 275<br>900   |
|                                 | P5  | 180<br>590   | 220<br>720   | 255<br>840   | 265<br>870   |
|                                 | P6  | 205<br>670   | 250<br>820   | 285<br>940   | 300<br>980   |
| Stainless steel and S-materials | P7  | 190<br>620   | 235<br>770   | 270<br>890   | 285<br>940   |
|                                 | P8  | 180<br>590   | 220<br>720   | 250<br>820   | 265<br>870   |
|                                 | P11 | 185<br>610   | 230<br>750   | 260<br>850   | 275<br>900   |
|                                 | P12 | 120<br>395   | 145<br>475   | 165<br>540   | 175<br>570   |
| Non ferrous                     | M1  | 195<br>640   | 240<br>790   | 275<br>900   | 295<br>970   |
|                                 | M2  | 165<br>540   | 195<br>640   | 230<br>750   | 240<br>790   |
|                                 | M3  | 130<br>425   | 155<br>510   | 180<br>590   | 190<br>620   |
|                                 | M4  | 100<br>330   | 120<br>395   | 140<br>460   | 145<br>475   |
| Hard                            | M5  | 85<br>280    | 100<br>330   | 115<br>375   | 120<br>395   |
|                                 | K1  | 195<br>640   | 235<br>770   | 270<br>890   | 290<br>950   |
|                                 | K2  | 170<br>560   | 210<br>690   | 240<br>790   | 255<br>840   |
|                                 | K3  | 145<br>475   | 175<br>570   | 205<br>670   | 215<br>710   |
| Plastic and cfrp                | K4  | 140<br>460   | 170<br>560   | 195<br>640   | 205<br>670   |
|                                 | K5  | 85<br>280    | 105<br>345   | 120<br>395   | 125<br>410   |
|                                 | K6  | 125<br>410   | 150<br>490   | 170<br>560   | 180<br>590   |
|                                 | K7  | 110<br>360   | 130<br>425   | 150<br>490   | 160<br>520   |
| Graphite                        | N1  | 1475<br>4850 | 1800<br>5900 | 2050<br>6725 | 2125<br>6975 |
|                                 | N2  | 590<br>1925  | 720<br>2350  | 820<br>2700  | 860<br>2825  |
|                                 | N3  | 395<br>1300  | 480<br>1575  | 550<br>1800  | 570<br>1875  |
|                                 | N11 | 450<br>1475  | 550<br>1800  | 630<br>2075  | 650<br>2125  |
| X-Heads                         | S1  | 48<br>155    | 55<br>180    | 65<br>215    | 70<br>230    |
|                                 | S2  | 39<br>130    | 46<br>150    | 50<br>165    | 55<br>180    |
|                                 | S3  | 33<br>110    | 40<br>130    | 46<br>150    | 48<br>155    |
|                                 | S11 | 65<br>215    | 80<br>260    | 90<br>295    | 95<br>310    |
| Minimaster                      | S12 | 46<br>150    | 55<br>180    | 65<br>215    | 65<br>215    |
|                                 | S13 | 27<br>90     | 32<br>105    | 36<br>120    | 38<br>125    |
|                                 | H5  | 40<br>130    | 47<br>155    | 55<br>180    | 60<br>195    |
|                                 | H8  | 41<br>135    | 50<br>165    | 55<br>180    | 60<br>195    |
|                                 | H11 | 50<br>165    | 60<br>195    | 70<br>230    | 75<br>245    |
|                                 | H12 | 75<br>245    | 90<br>295    | 100<br>330   | 105<br>345   |
|                                 | H21 | 41<br>135    | 50<br>165    | 55<br>180    | 60<br>195    |



## Shank design

| Design 1, Keyway shank                                                              | Design 2, Cylindrical/Weldon back end and 90° front                                  |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|    |   |
| Design 3, Cylindrical/Weldon back end tapered front 87°/89°                         | Design 4, Cylindrical/Weldon back end tapered front 80°/85°/87°                      |
|   |  |
| Design 5, Cylindrical back end double tapered front end 89°/85°                     |                                                                                      |
|  |                                                                                      |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

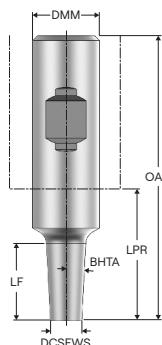
Hard

Graphite

X-Heads

Minimaster

#### MM10 Shank – Metric



| Designation         | Item number | DCSFWS | DMM  | LF   | LPR   | OAL   | BHTA° | Design | CSP | RPMX  | Shank                | Weight | Spare part no. |
|---------------------|-------------|--------|------|------|-------|-------|-------|--------|-----|-------|----------------------|--------|----------------|
|                     |             | mm     | mm   | mm   | mm    | mm    |       |        |     |       |                      | kg     |                |
| MM10-10045.0-0007   | 00083979    | 9,6    | 10,0 | 7,0  | 7,0   | 45,0  | 0,0   | 2      | ■   | 80000 | Cylindrical          | 0,1    | 2              |
| MM10-12060.0-0007DS | 02580667    | 9,6    | 12,0 | 7,0  | 15,0  | 60,0  | 0,0   | 2      | ■   | 76300 | Cylindrical Densimet | 0,1    | 3              |
| MM10-12085.0-3024DS | 02580704    | 9,5    | 12,0 | 23,8 | 40,0  | 85,0  | 3,0   | 4      | ■   | 76300 | Cylindrical Densimet | 0,2    | 3              |
| MM10-12100.0-1035DS | 02580733    | 9,5    | 12,0 | 35,0 | 55,0  | 100,0 | 1,0   | 3      | ■   | 76300 | Cylindrical Densimet | 0,2    | 3              |
| MM10-14120.0-1050DS | 02580736    | 9,5    | 14,0 | 50,0 | 75,0  | 120,0 | 1,0   | 3      | ■   | 76300 | Cylindrical Densimet | 0,3    | 3              |
| MM10-16065.0-0000   | 75004925    | 9,5    | 16,0 | 0,0  | 17,0  | 65,0  | 60,0  | 1      | ■   | 80000 | Cylindrical          | 0,1    | 1              |
| MM10-16160.0-1035M  | 00094757    | 9,5    | 16,0 | 35,0 | 112,0 | 160,0 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0,2    | 6              |
| MM10-16160.0-1055M  | 00094758    | 9,5    | 16,0 | 55,0 | 112,0 | 160,0 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0,2    | 7              |
| MM10-16160.0-1075M  | 00094760    | 9,5    | 16,0 | 75,0 | 112,0 | 160,0 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0,2    | 7              |
| MM10-16085.0-0020DS | 02580688    | 9,5    | 16,0 | 20,0 | 37,0  | 85,0  | 0,0   | 2      | ■   | 76300 | Cylindrical Densimet | 0,3    | 3              |
| MM10-16105.0-0040DS | 02580689    | 9,5    | 16,0 | 40,0 | 57,0  | 105,0 | 0,0   | 2      | ■   | 76300 | Cylindrical Densimet | 0,3    | 3              |
| MM10-16160.0-1055DS | 02580748    | 9,5    | 16,0 | 55,0 | 112,0 | 160,0 | 1,0   | 3      | ■   | 76300 | Cylindrical Densimet | 0,4    | 3              |
| MM10-16160.0-1075DS | 02580749    | 9,5    | 16,0 | 75,0 | 112,0 | 160,0 | 1,0   | 3      | ■   | 76300 | Cylindrical Densimet | 0,4    | 3              |
| MM10-20075.3-0010   | 75012787    | 9,5    | 20,0 | 10,0 | 25,0  | 75,0  | 0,0   | 2      | ■   | 80000 | Weldon               | 0,2    | 4              |
| MM10-20085.3-3023   | 75012788    | 9,5    | 20,0 | 23,0 | 35,0  | 85,0  | 3,0   | 3      | ■   | 80000 | Weldon               | 0,2    | 4              |
| MM10-20140.3-5060   | 75012789    | 9,5    | 20,0 | 60,0 | 90,0  | 140,0 | 5,0   | 4      | ■   | 80000 | Weldon               | 0,3    | 5              |
| MM10-20250.0-1055DS | 02580750    | 9,5    | 20,0 | 55,0 | 200,0 | 250,0 | 1,0   | 5      | ■   | 76300 | Cylindrical Densimet | 1,0    | 3              |
| MM10-32250.0-10063  | 75069366    | 9,5    | 32,0 | 63,8 | 190,0 | 250,0 | 10,0  | 4      | ■   | 80000 | Cylindrical          | 1,3    | 5              |

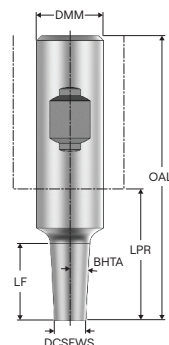
#### Spare Parts, included in delivery

#### Accessories

| For cutter | Sleeve                                                                              | Tension screw                                                                       | Sleeve key                                                                            |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|            |  |  |  |
| 1          | MM-06032                                                                            | MM10-0627                                                                           | H06-4                                                                                 |
| 2          | MM-06020                                                                            | MM10-0627                                                                           | H05-4                                                                                 |
| 3          | –                                                                                   | MM10-061027                                                                         | –                                                                                     |
| 4          | MM-06048                                                                            | MM10-0627                                                                           | H06-4                                                                                 |
| 5          | MM-06116                                                                            | MM10-0627                                                                           | H06-4                                                                                 |
| 6          | MM-06048                                                                            | MM10-0651                                                                           | H06-4                                                                                 |
| 7          | MM-06032                                                                            | MM10-0688                                                                           | H06-4                                                                                 |

Allen key H05-4 for sleeve to be ordered separately.  
For wrench types, see insert pages

## MM10 Shank – Inch



| Designation             | Item number | DCSFWS | DMM   | LF    | LPR   | OAL   | BHTA° | Design | CSP | RPMX  | Shank                | Weight | Spare part no. |
|-------------------------|-------------|--------|-------|-------|-------|-------|-------|--------|-----|-------|----------------------|--------|----------------|
|                         |             | inch   | inch  | inch  | inch  | inch  |       |        |     |       |                      | lbs    |                |
| MM10-0.38-1.8-0-0002    | 00096126    | 0.360  | 0.375 | 0.276 | 0.276 | 1.772 | 0,0   | 2      | ■   | 80000 | Cylindrical          | 0.220  | 2              |
| MM10-0.62-2.6-0-0000    | 75005069    | 0.374  | 0.625 | 0     | 0.669 | 2.559 | 60,0  | 1      | ■   | 80000 | Cylindrical          | 0.220  | 1              |
| MM10-0.62-6.3-0-1021    | 75054608    | 0.360  | 0.625 | 2.165 | 4.409 | 6.299 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0.440  | 7              |
| MM10-0.75-3.0-3-0004    | 75015052    | 0.360  | 0.750 | 0.394 | 0.984 | 2.953 | 0,0   | 2      | ■   | 80000 | Weldon               | 0.440  | 3              |
| MM10-0.75-3.3-3-3009    | 75015053    | 0.374  | 0.750 | 0.906 | 1.378 | 3.346 | 3,0   | 3      | ■   | 80000 | Weldon               | 0.440  | 3              |
| MM10-0.75-5.5-3-5021    | 75015054    | 0.374  | 0.750 | 2.150 | 3.543 | 5.512 | 5,0   | 4      | ■   | 80000 | Weldon               | 0.660  | 5              |
| MM10-0.75-10.0-0-1021DS | 02593420    | 0.360  | 0.750 | 2.165 | 7.874 | 9.843 | 1,0   | 5      | ■   | 76300 | Cylindrical Densimet | 1.980  | 4              |
| MM10-0.75-4.1-0-0015DS  | 02593422    | 0.360  | 0.750 | 1.575 | 2.165 | 4.134 | 0,0   | 2      | ■   | 76300 | Cylindrical Densimet | 0.660  | 4              |
| MM10-1.25-10.0-0-10024  | 00096132    | 0.374  | 1.250 | 2.484 | 7.480 | 9.843 | 10,0  | 4      | ■   | 80000 | Cylindrical          | 2.870  | 5              |

## Spare Parts, included in delivery

## Accessories

| For cutter | Sleeve                                                                              | Tension screw                                                                       | Sleeve key                                                                            |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|            |  |  |  |
| 1          | MM-06032                                                                            | MM10-0627                                                                           | H06-4                                                                                 |
| 2          | MM-06020                                                                            | MM10-0627                                                                           | H05-4                                                                                 |
| 3          | MM-06048                                                                            | MM10-0627                                                                           | H06-4                                                                                 |
| 4          | –                                                                                   | MM10-061027                                                                         | –                                                                                     |
| 5          | MM-06116                                                                            | MM10-0627                                                                           | H06-4                                                                                 |
| 7          | MM-06032                                                                            | MM10-0688                                                                           | H06-4                                                                                 |

Allen key H05-4 for sleeve to be ordered separately.  
For wrench types, see insert pages

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

Hard

Graphite

X-Heads

Minimaster

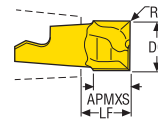
#### Slot milling/square shoulder milling



—For Torque keys and torque values, see page 799

| Designation           | DC             | APMXS         | RE           | LF             | RMPX° | C min | C max | FHA° | ZEFP | Wrench |  | Grades |      |      |      |
|-----------------------|----------------|---------------|--------------|----------------|-------|-------|-------|------|------|--------|-------------------------------------------------------------------------------------|--------|------|------|------|
|                       |                |               |              |                |       |       |       |      |      |        |                                                                                     | Coated |      |      |      |
|                       |                |               |              |                |       |       |       |      |      |        |                                                                                     | T60M   | F15M | F30M | F40M |
| mm<br>Inch            | mm<br>Inch     | mm<br>Inch    | mm<br>Inch   | mm<br>Inch     |       |       |       |      |      |        |                                                                                     |        |      |      |      |
| MM10-09512-A30-E03    | 9,525<br>0.375 | 11,8<br>0.465 | –            | 15,72<br>0.619 | 15,0  | 11,6  | 18,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM10-09512-R03A30-M03 | 9,525<br>0.375 | 11,8<br>0.465 | 0,3<br>0.012 | 15,72<br>0.619 | 15,0  | 11,6  | 18,2  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM10-09512-R04A30-M03 | 9,525<br>0.375 | 11,8<br>0.465 | 0,4<br>0.016 | 15,72<br>0.619 | 15,0  | 11,6  | 18,0  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM10-09512-R08A30-M03 | 9,525<br>0.375 | 11,8<br>0.465 | 0,8<br>0.031 | 15,72<br>0.619 | 15,0  | 11,6  | 17,2  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM10-09512-R16A30-M03 | 9,525<br>0.375 | 11,8<br>0.465 | 1,6<br>0.063 | 15,72<br>0.619 | 15,0  | 11,6  | 15,6  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM10-10012-A30-E03    | 10,0<br>0.394  | 11,8<br>0.465 | –            | 15,72<br>0.619 | 15,0  | 12,2  | 19,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM10-10012-R05A30-M03 | 10,0<br>0.394  | 11,8<br>0.465 | 0,5<br>0.020 | 15,72<br>0.619 | 15,0  | 12,2  | 18,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM10-10012-R10A30-D03 | 10,0<br>0.394  | 11,8<br>0.465 | 1,0<br>0.039 | 15,72<br>0.619 | 15,0  | 12,2  | 17,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM10-10012-R10A30-E03 | 10,0<br>0.394  | 11,8<br>0.465 | 1,0<br>0.039 | 15,72<br>0.619 | 15,0  | 12,2  | 17,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM10-10012-R10A30-M03 | 10,0<br>0.394  | 11,8<br>0.465 | 1,0<br>0.039 | 15,72<br>0.619 | 15,0  | 12,2  | 17,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM10-10012-R20A30-M03 | 10,0<br>0.394  | 11,8<br>0.465 | 2,0<br>0.079 | 15,72<br>0.619 | 15,0  | 12,2  | 15,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM10-10012-R30A30-M03 | 10,0<br>0.394  | 11,8<br>0.465 | 3,0<br>0.118 | 15,72<br>0.619 | 15,0  | 12,2  | 13,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |

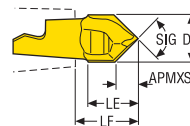
## Slot milling/square shoulder milling



—For Torque keys and torque values, see page 799

| Designation          | DC             | APMXS        | RE           | LF            | RMPX° | C min | C max | FHA° | ZEFP | Wrench | Grades |      |      |      |
|----------------------|----------------|--------------|--------------|---------------|-------|-------|-------|------|------|--------|--------|------|------|------|
|                      |                |              |              |               |       |       |       |      |      |        | Coated |      |      |      |
|                      |                |              |              |               |       |       |       |      |      |        | T60M   | F15M | F30M | F40M |
| MM10-09510-M03       | 9,525<br>0.375 | 6,8<br>0.268 | —            | 8,5<br>0.335  | 15,0  | 11,6  | 18,8  | 0    | 2    | MM0612 | ■      |      |      |      |
| MM10-09510-R04-MD04  | 9,525<br>0.375 | 6,8<br>0.268 | 0,4<br>0.016 | 8,49<br>0.334 | 15,0  | 11,6  | 18,0  | 0    | 2    | MM0612 | ■      |      |      |      |
| MM10-09510-R08A8-E03 | 9,525<br>0.375 | 6,6<br>0.260 | 0,8<br>0.031 | 8,37<br>0.330 | 15,0  | 11,6  | 17,2  | 8    | 2    | MM0612 |        |      | ■    |      |
| MM10-09807T-R03-D04  | 9,8<br>0.386   | 6,8<br>0.268 | 0,3<br>0.012 | 8,49<br>0.334 | 15,0  | 11,9  | 18,8  | 0    | 2    | MM0612 | ■      |      |      |      |
| MM10-10007-M03       | 10,0<br>0.394  | 6,9<br>0.272 | —            | 8,5<br>0.335  | 15,0  | 12,2  | 19,8  | 0    | 2    | MM0612 | ■      |      |      |      |
| MM10-10007-R04A8-E03 | 10,0<br>0.394  | 6,6<br>0.260 | 0,4<br>0.016 | 8,44<br>0.332 | 15,0  | 12,2  | 19,0  | 8    | 2    | MM0612 | ■      |      | ■    |      |
| MM10-10007-R04-MD04  | 10,0<br>0.394  | 6,8<br>0.268 | 0,4<br>0.016 | 8,49<br>0.334 | 15,0  | 12,2  | 19,0  | 0    | 2    | MM0612 | ■      |      | ■    |      |
| MM10-10007-R04P-M03  | 10,0<br>0.394  | 6,7<br>0.264 | 0,4<br>0.016 | 8,38<br>0.330 | 15,0  | 12,2  | 19,0  | 0    | 2    | MM0612 |        |      | ■    |      |
| MM10-10007-R10-MD04  | 10,0<br>0.394  | 6,8<br>0.268 | 1,0<br>0.039 | 8,48<br>0.334 | 15,0  | 12,2  | 17,8  | 0    | 2    | MM0612 | ■      |      | ■    |      |
| MM10-10007-R20-MD04  | 10,0<br>0.394  | 6,8<br>0.268 | 2,0<br>0.079 | 8,46<br>0.333 | 15,0  | 12,2  | 15,8  | 0    | 2    | MM0612 |        |      | ■    |      |
| MM10-10007-R30-MD04  | 10,0<br>0.394  | 6,8<br>0.268 | 3,0<br>0.118 | 8,44<br>0.332 | 15,0  | 12,2  | 13,8  | 0    | 2    | MM0612 |        |      | ■    |      |

## Centre drilling



—For Torque keys and torque values, see page 799

| Designation         | DC            | APMXS         | RE | LF            | SIG°  | ZEFP | Wrench | Grades |      |      |      |
|---------------------|---------------|---------------|----|---------------|-------|------|--------|--------|------|------|------|
|                     |               |               |    |               |       |      |        | Coated |      |      |      |
|                     |               |               |    |               |       |      |        | T60M   | F15M | F30M | F40M |
| MM10-10005-C90-M03  | 10,0<br>0.394 | 4,69<br>0.185 | —  | 11,8<br>0.465 | 90,0  | 2    | MM0612 | ■      |      |      |      |
| MM10-10007-C120-M03 | 10,0<br>0.394 | 2,7<br>0.106  | —  | 11,8<br>0.465 | 120,0 | 2    | MM0612 | ■      |      |      |      |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

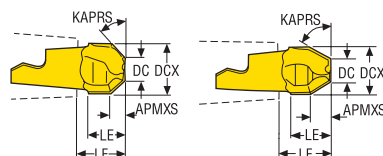
Hard

Graphite

X-Heads

Minimaster

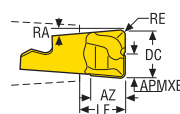
#### Chamfering



—For Torque keys and torque values, see page 799

| Designation         | DCX           | DC            | APMXS        | RE           | LE            | LF            | KAPRS° | ZEFP | Wrench | Grades |      |      |      |
|---------------------|---------------|---------------|--------------|--------------|---------------|---------------|--------|------|--------|--------|------|------|------|
|                     |               |               |              |              |               |               |        |      |        | Coated |      |      |      |
|                     | mm<br>Inch    | mm<br>Inch    | mm<br>Inch   | mm<br>Inch   | mm<br>Inch    | mm<br>Inch    |        |      |        | T60M   | F15M | F30M | F40M |
| MM10-10007-4525-E03 | 10,0<br>0.394 | 4,82<br>0.190 | 2,6<br>0.102 | 0,3<br>0.012 | 6,94<br>0.273 | 8,48<br>0.334 | 45,0   | 2    | MM0612 | ■      |      |      |      |
| MM10-10008-6040-E03 | 10,0<br>0.394 | 5,24<br>0.206 | 4,0<br>0.157 | 0,3<br>0.012 | 8,05<br>0.317 | 9,6<br>0.378  | 60,0   | 2    | MM0612 | ■      |      |      |      |

#### Plunge milling



—For Torque keys and torque values, see page 799

| Designation            | DC            | APMXE        | RE           | AZ           | LF            | RA° | ZEFP | Wrench | Grades |      |      |      |
|------------------------|---------------|--------------|--------------|--------------|---------------|-----|------|--------|--------|------|------|------|
|                        |               |              |              |              |               |     |      |        | Coated |      |      |      |
|                        | mm<br>Inch    | mm<br>Inch   | mm<br>Inch   | mm<br>Inch   | mm<br>Inch    |     |      |        | T60M   | F15M | F30M | F40M |
| MM10-10007-R10-PL-MD04 | 10,0<br>0.394 | 5,0<br>0.197 | 1,0<br>0.039 | 7,1<br>0.280 | 8,48<br>0.334 | 5,0 | 2    | MM0612 |        |      | ■    |      |

Precision inserts for semi-finishing in all materials



—For Torque keys and torque values, see page 799

| Designation          | DC            | APMXS         | RE            | LE            | DN            | LF             | SA°   | ZEFP | Wrench | Grades |      |      |      |
|----------------------|---------------|---------------|---------------|---------------|---------------|----------------|-------|------|--------|--------|------|------|------|
|                      |               |               |               |               |               |                |       |      |        | Coated |      |      |      |
|                      |               |               |               |               |               |                |       |      |        | T60M   | F15M | F30M | F40M |
| MM10-12012-B120P-M05 | 12,0<br>0.472 | 6,0<br>0.236  | 6,0<br>0.236  | 12,0<br>0.472 | 10,0<br>0.394 | 13,2<br>0.520  | 247,0 | 2    | MM0612 |        |      | ■    |      |
| MM10-12712-B120P-M05 | 12,7<br>0.500 | 6,35<br>0.250 | 6,35<br>0.250 | 12,4<br>0.488 | 10,0<br>0.394 | 13,56<br>0.534 | 256,0 | 2    | MM0612 |        |      | ■    |      |

## Copy milling



—For Torque keys and torque values, see page 799

| Designation           | DC             | APMXS         | RE             | LF             | FHA° | ZEFP | Wrench |  | Grades |      |      |      |
|-----------------------|----------------|---------------|----------------|----------------|------|------|--------|---------------------------------------------------------------------------------------|--------|------|------|------|
|                       |                |               |                |                |      |      |        |                                                                                       | Coated |      |      |      |
|                       |                |               |                |                |      |      |        |                                                                                       | T60M   | F15M | F30M | F40M |
| MM10-09510-B90P-M04   | 9,525<br>0.375 | 8,7<br>0.343  | 4,763<br>0.188 | 11,74<br>0.462 |      | 2    | MM0612 |                                                                                       | ■      |      | ■    |      |
| MM10-10010-B90-MD04   | 10,0<br>0.394  | 10,2<br>0.402 | 5,0<br>0.197   | 11,77<br>0.463 |      | 2    | MM0612 |                                                                                       | ■      |      | ■    |      |
| MM10-10010-B90PF-M02  | 10,0<br>0.394  | 8,73<br>0.344 | 5,0<br>0.197   | 11,74<br>0.462 |      | 2    | MM0612 |                                                                                       |        | ■    |      |      |
| MM10-10010-B90P-M04   | 10,0<br>0.394  | 8,73<br>0.344 | 5,0<br>0.197   | 11,74<br>0.462 |      | 2    | MM0612 |                                                                                       |        |      | ■    |      |
| MM10-10010-B90S-E04   | 10,0<br>0.394  | 10,2<br>0.402 | 5,0<br>0.197   | 11,77<br>0.463 |      | 2    | MM0612 |                                                                                       |        |      | ■    |      |
| MM10-10012-B90A30-D03 | 10,0<br>0.394  | 11,8<br>0.465 | 5,0<br>0.197   | 15,72<br>0.619 | 30,0 | 3    | MM0416 | ✓                                                                                     |        |      | ■    |      |
| MM10-10012-B90A30-E03 | 10,0<br>0.394  | 11,8<br>0.465 | 5,0<br>0.197   | 15,72<br>0.619 | 30,0 | 3    | MM0416 | ✓                                                                                     |        |      | ■    |      |
| MM10-10012-B90A30-M03 | 10,0<br>0.394  | 11,8<br>0.465 | 5,0<br>0.197   | 15,72<br>0.619 | 30,0 | 3    | MM0416 | ✓                                                                                     |        |      |      | ■    |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

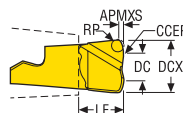
Hard

Graphite

X-Heads

Minimaster

### High feed



—For Torque keys and torque values, see page 799

| Designation        |               |              |               |               |              |              |       |       |       |      |        | Grades |      |      |      |
|--------------------|---------------|--------------|---------------|---------------|--------------|--------------|-------|-------|-------|------|--------|--------|------|------|------|
|                    | DCX           | DC           | APMXS         | RP            | CCER         | LF           | RMPX° | C min | C max | ZEFP | Wrench | Coated |      |      |      |
|                    | mm<br>Inch    | mm<br>Inch   | mm<br>Inch    | mm<br>Inch    | mm<br>Inch   | mm<br>Inch   |       |       |       |      |        | T60M   | F15M | F30M | F40M |
| MM10-10.50-HF-MD08 | 10,0<br>0.394 | 5,0<br>0.197 | 0,44<br>0.017 | 1,13<br>0.044 | 5,0<br>0.197 | 8,5<br>0.335 | 5,0   | 12,2  | 18,2  | 2    | MM0612 |        | ■    | ■    |      |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster



MM10 – Slot and Side milling – Insert selection – mm/Inch

| SMG |                            | $a_p$        | $f_z$           |                  |                 |                 |
|-----|----------------------------|--------------|-----------------|------------------|-----------------|-----------------|
|     |                            |              | 100%            | 40%              | 20%             | 10%             |
| P1  | MM10-10012-R05A30-M03 F40M | 2,0<br>0,080 | 0,044<br>0,0017 | 0,044<br>0,0017  | 0,055<br>0,0022 | 0,070<br>0,0028 |
| P2  | MM10-10012-R05A30-M03 F40M | 2,0<br>0,080 | 0,044<br>0,0017 | 0,044<br>0,0017  | 0,055<br>0,0022 | 0,070<br>0,0028 |
| P3  | MM10-10012-R05A30-M03 F40M | 2,0<br>0,080 | 0,042<br>0,0017 | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,070<br>0,0028 |
| P4  | MM10-10012-R05A30-M03 F40M | 2,0<br>0,080 | 0,042<br>0,0017 | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,065<br>0,0026 |
| P5  | MM10-10012-R05A30-M03 F40M | 2,0<br>0,080 | 0,040<br>0,0016 | 0,040<br>0,0016  | 0,050<br>0,0020 | 0,065<br>0,0026 |
| P6  | MM10-10012-R05A30-M03 F40M | 2,0<br>0,080 | 0,040<br>0,0016 | 0,040<br>0,0016  | 0,048<br>0,0019 | 0,065<br>0,0026 |
| P7  | MM10-10012-R05A30-M03 F40M | 2,0<br>0,080 | 0,040<br>0,0016 | 0,040<br>0,0016  | 0,048<br>0,0019 | 0,065<br>0,0026 |
| P8  | MM10-10012-R05A30-M03 F40M | 2,0<br>0,080 | 0,042<br>0,0017 | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,070<br>0,0028 |
| P11 | MM10-10012-R05A30-M03 F40M | 2,0<br>0,080 | 0,040<br>0,0016 | 0,040<br>0,0016  | 0,048<br>0,0019 | 0,065<br>0,0026 |
| P12 | MM10-10012-R05A30-M03 F40M | 1,7<br>0,065 | 0,028<br>0,0011 | 0,028<br>0,0011  | 0,034<br>0,0013 | 0,044<br>0,0017 |
| M1  | MM10-10012-R05A30-M03 F40M | 2,0<br>0,080 | 0,044<br>0,0017 | 0,044<br>0,0017  | 0,055<br>0,0022 | 0,070<br>0,0028 |
| M2  | MM10-10012-R05A30-M03 F40M | 2,0<br>0,080 | 0,040<br>0,0016 | 0,040<br>0,0016  | 0,050<br>0,0020 | 0,065<br>0,0026 |
| M3  | MM10-10012-R05A30-M03 F40M | 1,7<br>0,065 | 0,032<br>0,0013 | 0,032<br>0,0013  | 0,040<br>0,0016 | 0,050<br>0,0020 |
| M4  | MM10-10012-R05A30-M03 F40M | 1,2<br>0,048 | 0,030<br>0,0012 | 0,030<br>0,0012  | 0,034<br>0,0013 | 0,046<br>0,0018 |
| M5  | MM10-10012-R05A30-M03 F40M | 1,2<br>0,048 | 0,030<br>0,0012 | 0,030<br>0,0012  | 0,034<br>0,0013 | 0,046<br>0,0018 |
| K1  | MM10-10012-R10A30-E03 F30M | 2,0<br>0,080 | 0,048<br>0,0019 | 0,048<br>0,0019  | 0,055<br>0,0022 | 0,075<br>0,0030 |
| K2  | MM10-10012-R10A30-E03 F30M | 2,0<br>0,080 | 0,044<br>0,0017 | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,065<br>0,0026 |
| K3  | MM10-10012-R10A30-E03 F30M | 2,0<br>0,080 | 0,044<br>0,0017 | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,065<br>0,0026 |
| K4  | MM10-10012-R10A30-E03 F30M | 2,0<br>0,080 | 0,044<br>0,0017 | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,065<br>0,0026 |
| K5  | MM10-10012-R10A30-D03 F30M | 2,0<br>0,080 | 0,040<br>0,0016 | 0,038<br>0,0015  | 0,044<br>0,0017 | 0,060<br>0,0024 |
| K6  | MM10-10012-R10A30-D03 F30M | 2,0<br>0,080 | 0,044<br>0,0017 | 0,042<br>0,0017  | 0,050<br>0,0020 | 0,065<br>0,0026 |
| K7  | MM10-10012-R10A30-D03 F30M | 2,0<br>0,080 | 0,040<br>0,0016 | 0,038<br>0,0015  | 0,044<br>0,0017 | 0,060<br>0,0024 |
| N1  | MM10-10012-R10A30-E03 F30M | 2,0<br>0,080 | 0,060<br>0,0024 | 0,060<br>0,0024  | 0,070<br>0,0028 | 0,095<br>0,0038 |
| N2  | MM10-10012-R10A30-E03 F30M | 2,0<br>0,080 | 0,060<br>0,0024 | 0,060<br>0,0024  | 0,070<br>0,0028 | 0,095<br>0,0038 |
| N3  | MM10-10012-R10A30-E03 F30M | 2,0<br>0,080 | 0,060<br>0,0024 | 0,060<br>0,0024  | 0,070<br>0,0028 | 0,095<br>0,0038 |
| N11 | MM10-10012-R10A30-E03 F30M | 2,0<br>0,080 | 0,060<br>0,0024 | 0,060<br>0,0024  | 0,070<br>0,0028 | 0,095<br>0,0038 |
| S1  | MM10-10012-R10A30-D03 F30M | 1,2<br>0,048 | 0,036<br>0,0014 | 0,034<br>0,0013  | 0,036<br>0,0014 | 0,046<br>0,0018 |
| S2  | MM10-10012-R10A30-D03 F30M | 1,2<br>0,048 | 0,036<br>0,0014 | 0,034<br>0,0013  | 0,036<br>0,0014 | 0,046<br>0,0018 |
| S3  | MM10-10012-R10A30-D03 F30M | 1,2<br>0,048 | 0,032<br>0,0013 | 0,032<br>0,0013  | 0,034<br>0,0013 | 0,042<br>0,0017 |
| S11 | MM10-10012-R05A30-M03 F40M | 1,4<br>0,055 | 0,034<br>0,0013 | 0,034<br>0,0013  | 0,040<br>0,0016 | 0,050<br>0,0020 |
| S12 | MM10-10012-R05A30-M03 F40M | 1,4<br>0,055 | 0,034<br>0,0013 | 0,034<br>0,0013  | 0,040<br>0,0016 | 0,050<br>0,0020 |
| S13 | MM10-10012-R05A30-M03 F40M | 1,2<br>0,048 | 0,030<br>0,0012 | 0,030<br>0,0012  | 0,034<br>0,0013 | 0,046<br>0,0018 |
| H5  | MM10-10012-R10A30-D03 F30M | 1,7<br>0,065 | 0,030<br>0,0012 | 0,030<br>0,0012  | 0,034<br>0,0013 | 0,044<br>0,0017 |
| H8  | MM10-10012-R10A30-D03 F30M | 1,4<br>0,055 | 0,025<br>0,0010 | 0,024<br>0,00095 | 0,026<br>0,0010 | 0,034<br>0,0013 |
| H11 | MM10-10012-R10A30-D03 F30M | 1,7<br>0,065 | 0,030<br>0,0012 | 0,030<br>0,0012  | 0,034<br>0,0013 | 0,044<br>0,0017 |
| H12 | MM10-10012-R10A30-D03 F30M | 1,4<br>0,055 | 0,025<br>0,0010 | 0,024<br>0,00095 | 0,026<br>0,0010 | 0,034<br>0,0013 |
| H21 | MM10-10012-R10A30-D03 F30M | 1,4<br>0,055 | 0,025<br>0,0010 | 0,024<br>0,00095 | 0,026<br>0,0010 | 0,034<br>0,0013 |

SMG = Seco material group  
 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e/DC$  = %  
 All cutting data are start values

Universal  
Steel and cast iron  
Stainless steel and S-materials  
Stainless steel and S-materials  
Non ferrous  
Hard  
Graphite  
X-Heads  
Minimaster

MM10 – Slot and Side milling – Cutting data  $v_c = (m/min)/(sf/min)$ 

|                     | SMG | F30M |      |      |      | F40M |      |      |      | T60M |      |      |      |
|---------------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|
|                     |     | 100% | 40%  | 20%  | 10%  | 100% | 40%  | 20%  | 10%  | 100% | 40%  | 20%  | 10%  |
| Universal           | P1  | 265  | 330  | 365  | 405  | 250  | 315  | 345  | 385  | 190  | 240  | 270  | 295  |
|                     |     | 870  | 1075 | 1200 | 1325 | 820  | 1025 | 1125 | 1275 | 620  | 790  | 890  | 970  |
| Steel and cast iron | P2  | 260  | 320  | 360  | 390  | 245  | 305  | 340  | 375  | 185  | 235  | 260  | 290  |
|                     |     | 850  | 1050 | 1175 | 1275 | 800  | 1000 | 1125 | 1225 | 610  | 770  | 850  | 950  |
|                     | P3  | 225  | 280  | 315  | 340  | 215  | 265  | 295  | 325  | 165  | 205  | 230  | 250  |
|                     |     | 740  | 920  | 1025 | 1125 | 710  | 870  | 970  | 1075 | 540  | 670  | 750  | 820  |
|                     | P4  | 200  | 245  | 275  | 305  | 190  | 235  | 260  | 290  | 145  | 180  | 200  | 225  |
|                     |     | 660  | 800  | 900  | 1000 | 620  | 770  | 850  | 950  | 475  | 590  | 660  | 740  |
|                     | P5  | 190  | 235  | 265  | 290  | 180  | 225  | 250  | 275  | 140  | 175  | 195  | 215  |
|                     |     | 620  | 770  | 870  | 950  | 590  | 740  | 820  | 900  | 460  | 570  | 640  | 710  |
|                     | P6  | 215  | 265  | 295  | 325  | 205  | 250  | 280  | 310  | 155  | 195  | 220  | 240  |
|                     |     | 710  | 870  | 970  | 1075 | 670  | 820  | 920  | 1025 | 510  | 640  | 720  | 790  |
|                     | P7  | 200  | 250  | 280  | 310  | 190  | 240  | 265  | 290  | 145  | 185  | 205  | 225  |
|                     |     | 660  | 820  | 920  | 1025 | 620  | 790  | 870  | 950  | 475  | 610  | 670  | 740  |
|                     | P8  | 190  | 235  | 265  | 285  | 180  | 225  | 250  | 270  | 140  | 175  | 190  | 210  |
|                     |     | 620  | 770  | 870  | 940  | 590  | 740  | 820  | 890  | 460  | 570  | 620  | 690  |
|                     | P11 | 195  | 245  | 270  | 300  | 185  | 230  | 260  | 285  | 140  | 180  | 200  | 220  |
|                     |     | 640  | 800  | 890  | 980  | 610  | 750  | 850  | 940  | 460  | 590  | 660  | 720  |
|                     | P12 | 125  | 150  | 170  | 185  | 115  | 145  | 160  | 175  | 90   | 115  | 125  | 140  |
|                     |     | 410  | 490  | 560  | 610  | 375  | 475  | 520  | 570  | 295  | 375  | 410  | 460  |
|                     | M1  | —    | —    | —    | —    | 200  | 245  | 275  | 305  | 150  | 190  | 210  | 235  |
|                     |     | —    | —    | —    | —    | 660  | 800  | 900  | 1000 | 490  | 620  | 690  | 770  |
|                     | M2  | —    | —    | —    | —    | 165  | 200  | 225  | 250  | 125  | 155  | 175  | 190  |
|                     |     | —    | —    | —    | —    | 540  | 660  | 740  | 820  | 410  | 510  | 570  | 620  |
|                     | M3  | —    | —    | —    | —    | 130  | 160  | 175  | 195  | 100  | 125  | 140  | 155  |
|                     |     | —    | —    | —    | —    | 425  | 520  | 570  | 640  | 330  | 410  | 460  | 510  |
|                     | M4  | —    | —    | —    | —    | 100  | 120  | 135  | 150  | 75   | 95   | 105  | 115  |
|                     |     | —    | —    | —    | —    | 330  | 395  | 445  | 490  | 245  | 310  | 345  | 375  |
|                     | M5  | —    | —    | —    | —    | 80   | 100  | 115  | 125  | 65   | 80   | 90   | 95   |
|                     |     | —    | —    | —    | —    | 260  | 330  | 375  | 410  | 215  | 260  | 295  | 310  |
|                     | K1  | 205  | 255  | 285  | 310  | 195  | 240  | 270  | 300  | 150  | 185  | 205  | 230  |
|                     |     | 670  | 840  | 940  | 1025 | 640  | 790  | 890  | 980  | 490  | 610  | 670  | 750  |
|                     | K2  | 180  | 225  | 250  | 275  | 170  | 215  | 235  | 260  | 130  | 165  | 185  | 200  |
|                     |     | 590  | 740  | 820  | 900  | 560  | 710  | 770  | 850  | 425  | 540  | 610  | 660  |
|                     | K3  | 150  | 190  | 210  | 235  | 145  | 180  | 200  | 220  | 110  | 140  | 155  | 170  |
|                     |     | 490  | 620  | 690  | 770  | 475  | 590  | 660  | 720  | 360  | 460  | 510  | 560  |
|                     | K4  | 145  | 180  | 200  | 225  | 140  | 170  | 190  | 210  | 105  | 130  | 150  | 165  |
|                     |     | 475  | 590  | 660  | 740  | 460  | 560  | 620  | 690  | 345  | 425  | 490  | 540  |
|                     | K5  | 90   | 110  | 125  | 135  | 85   | 105  | 115  | 125  | 65   | 80   | 90   | 100  |
|                     |     | 295  | 360  | 410  | 445  | 280  | 345  | 375  | 410  | 215  | 260  | 295  | 330  |
|                     | K6  | 130  | 160  | 180  | 195  | 120  | 150  | 170  | 185  | 95   | 115  | 130  | 145  |
|                     |     | 425  | 520  | 590  | 640  | 395  | 490  | 560  | 610  | 310  | 375  | 425  | 475  |
|                     | K7  | 110  | 140  | 155  | 170  | 105  | 135  | 150  | 165  | 85   | 105  | 115  | 125  |
|                     |     | 360  | 460  | 510  | 560  | 345  | 445  | 490  | 540  | 280  | 345  | 375  | 410  |
|                     | N1  | 1550 | 1925 | 2150 | 2350 | 1475 | 1825 | 2025 | 2250 | 1125 | 1400 | 1550 | 1725 |
|                     |     | 5075 | 6325 | 7050 | 7700 | 4850 | 6000 | 6650 | 7375 | 3700 | 4600 | 5075 | 5650 |
|                     | N2  | 630  | 780  | 870  | 950  | 600  | 740  | 820  | 910  | 450  | 570  | 630  | 690  |
|                     |     | 2075 | 2550 | 2850 | 3125 | 1975 | 2425 | 2700 | 2975 | 1475 | 1875 | 2075 | 2275 |
|                     | N3  | 415  | 520  | 580  | 630  | 395  | 495  | 550  | 610  | 300  | 380  | 420  | 460  |
|                     |     | 1350 | 1700 | 1900 | 2075 | 1300 | 1625 | 1800 | 2000 | 980  | 1250 | 1375 | 1500 |
|                     | N11 | 475  | 590  | 660  | 720  | 455  | 570  | 620  | 690  | 345  | 430  | 480  | 530  |
|                     |     | 1550 | 1925 | 2175 | 2350 | 1500 | 1875 | 2025 | 2275 | 1125 | 1400 | 1575 | 1750 |
|                     | S1  | 48   | 60   | 65   | 75   | 46   | 55   | 65   | 70   | 36   | 45   | 50   | 55   |
|                     |     | 155  | 195  | 215  | 245  | 150  | 180  | 215  | 230  | 120  | 150  | 165  | 180  |
|                     | S2  | 38   | 48   | 55   | 60   | 37   | 46   | 50   | 55   | 29   | 36   | 40   | 44   |
|                     |     | 125  | 155  | 180  | 195  | 120  | 150  | 165  | 180  | 95   | 120  | 130  | 145  |
|                     | S3  | 34   | 42   | 47   | 50   | 32   | 40   | 45   | 49   | 25   | 32   | 35   | 38   |
|                     |     | 110  | 140  | 155  | 165  | 105  | 130  | 150  | 160  | 80   | 105  | 115  | 125  |
|                     | S11 | —    | —    | —    | —    | 65   | 80   | 90   | 100  | 50   | 65   | 70   | 75   |
|                     |     | —    | —    | —    | —    | 215  | 260  | 295  | 330  | 165  | 215  | 230  | 245  |
|                     | S12 | —    | —    | —    | —    | 45   | 55   | 60   | 70   | 35   | 43   | 49   | 55   |
|                     |     | —    | —    | —    | —    | 150  | 180  | 195  | 230  | 115  | 140  | 160  | 180  |
|                     | S13 | —    | —    | —    | —    | 26   | 32   | 36   | 39   | 20   | 25   | 28   | 30   |
|                     |     | —    | —    | —    | —    | 85   | 105  | 120  | 130  | 65   | 80   | 90   | 100  |
|                     | H5  | 41   | 50   | 55   | 60   | 39   | 48   | 55   | 60   | 30   | 38   | 42   | 46   |
|                     |     | 135  | 165  | 180  | 195  | 130  | 155  | 180  | 195  | 100  | 125  | 140  | 150  |
|                     | H8  | 42   | 50   | 60   | 65   | 40   | 50   | 55   | 60   | 31   | 39   | 44   | 48   |
|                     |     | 140  | 165  | 195  | 215  | 130  | 165  | 180  | 195  | 100  | 130  | 145  | 155  |
|                     | H11 | 50   | 65   | 70   | 80   | 49   | 60   | 70   | 75   | 38   | 48   | 55   | 60   |
|                     |     | 165  | 215  | 230  | 260  | 160  | 195  | 230  | 245  | 125  | 155  | 180  | 195  |
|                     | H12 | 75   | 95   | 105  | 115  | 70   | 90   | 100  | 110  | 55   | 70   | 80   | 85   |
|                     |     | 245  | 310  | 345  | 375  | 230  | 295  | 330  | 360  | 180  | 230  | 260  | 280  |
|                     | H21 | 42   | 50   | 60   | 65   | 40   | 50   | 55   | 60   | 31   | 39   | 44   | 48   |
|                     |     | 140  | 165  | 195  | 215  | 130  | 165  | 180  | 195  | 100  | 130  | 145  | 155  |

### MM10 Z3 – Copy milling – Insert selection – Roughing – mm/Inch

| SMG |                            | $a_p$ | $f_z$  |        |        |        |                                 |
|-----|----------------------------|-------|--------|--------|--------|--------|---------------------------------|
|     |                            |       | 100%   | 40%    | 20%    | 10%    |                                 |
| P1  | MM10-10012-B90A30-M03 F40M | 2,0   | 0,055  | 0,050  | 0,055  | 0,070  | Universal                       |
|     |                            | 0,080 | 0,0022 | 0,0020 | 0,0022 | 0,0028 |                                 |
| P2  | MM10-10012-B90A30-M03 F40M | 2,0   | 0,055  | 0,050  | 0,055  | 0,075  | Steel and cast iron             |
|     |                            | 0,080 | 0,0022 | 0,0020 | 0,0022 | 0,0030 |                                 |
| P3  | MM10-10012-B90A30-M03 F40M | 2,0   | 0,050  | 0,050  | 0,050  | 0,070  | Steel and cast iron             |
|     |                            | 0,080 | 0,0020 | 0,0020 | 0,0020 | 0,0028 |                                 |
| P4  | MM10-10012-B90A30-M03 F40M | 2,0   | 0,050  | 0,048  | 0,050  | 0,065  | Steel and cast iron             |
|     |                            | 0,080 | 0,0020 | 0,0019 | 0,0020 | 0,0026 |                                 |
| P5  | MM10-10012-B90A30-M03 F40M | 2,0   | 0,050  | 0,048  | 0,050  | 0,065  | Steel and cast iron             |
|     |                            | 0,080 | 0,0020 | 0,0019 | 0,0020 | 0,0026 |                                 |
| P6  | MM10-10012-B90A30-M03 F40M | 2,0   | 0,050  | 0,048  | 0,050  | 0,065  | Steel and cast iron             |
|     |                            | 0,080 | 0,0020 | 0,0019 | 0,0020 | 0,0026 |                                 |
| P7  | MM10-10012-B90A30-M03 F40M | 2,0   | 0,050  | 0,048  | 0,050  | 0,065  | Steel and cast iron             |
|     |                            | 0,080 | 0,0020 | 0,0019 | 0,0020 | 0,0026 |                                 |
| P8  | MM10-10012-B90A30-M03 F40M | 2,0   | 0,050  | 0,050  | 0,050  | 0,070  | Stainless steel and S-materials |
|     |                            | 0,080 | 0,0020 | 0,0020 | 0,0020 | 0,0028 |                                 |
| P11 | MM10-10012-B90A30-M03 F40M | 2,0   | 0,050  | 0,048  | 0,050  | 0,065  | Stainless steel and S-materials |
|     |                            | 0,080 | 0,0020 | 0,0019 | 0,0020 | 0,0026 |                                 |
| P12 | MM10-10012-B90A30-M03 F40M | 1,7   | 0,034  | 0,034  | 0,034  | 0,044  | Stainless steel and S-materials |
|     |                            | 0,065 | 0,0013 | 0,0013 | 0,0013 | 0,0018 |                                 |
| M1  | MM10-10012-B90A30-M03 F40M | 2,0   | 0,055  | 0,050  | 0,055  | 0,075  | Stainless steel and S-materials |
|     |                            | 0,080 | 0,0022 | 0,0020 | 0,0022 | 0,0030 |                                 |
| M2  | MM10-10012-B90A30-M03 F40M | 2,0   | 0,050  | 0,048  | 0,050  | 0,065  | Stainless steel and S-materials |
|     |                            | 0,080 | 0,0020 | 0,0019 | 0,0020 | 0,0026 |                                 |
| M3  | MM10-10012-B90A30-M03 F40M | 1,7   | 0,042  | 0,040  | 0,042  | 0,055  | Stainless steel and S-materials |
|     |                            | 0,065 | 0,0017 | 0,0016 | 0,0017 | 0,0022 |                                 |
| M4  | MM10-10012-B90A30-M03 F40M | 1,2   | 0,038  | 0,036  | 0,036  | 0,046  | Stainless steel and S-materials |
|     |                            | 0,048 | 0,0015 | 0,0014 | 0,0014 | 0,0019 |                                 |
| M5  | MM10-10012-B90A30-M03 F40M | 1,2   | 0,038  | 0,036  | 0,036  | 0,046  | Stainless steel and S-materials |
|     |                            | 0,048 | 0,0015 | 0,0014 | 0,0014 | 0,0019 |                                 |
| K1  | MM10-10012-B90A30-E03 F30M | 2,0   | 0,055  | 0,050  | 0,055  | 0,075  | Non ferrous                     |
|     |                            | 0,080 | 0,0022 | 0,0020 | 0,0022 | 0,0030 |                                 |
| K2  | MM10-10012-B90A30-E03 F30M | 2,0   | 0,050  | 0,048  | 0,050  | 0,065  | Non ferrous                     |
|     |                            | 0,080 | 0,0020 | 0,0019 | 0,0020 | 0,0026 |                                 |
| K3  | MM10-10012-B90A30-E03 F30M | 2,0   | 0,050  | 0,048  | 0,050  | 0,065  | Non ferrous                     |
|     |                            | 0,080 | 0,0020 | 0,0019 | 0,0020 | 0,0026 |                                 |
| K4  | MM10-10012-B90A30-E03 F30M | 2,0   | 0,050  | 0,048  | 0,050  | 0,065  | Non ferrous                     |
|     |                            | 0,080 | 0,0020 | 0,0019 | 0,0020 | 0,0026 |                                 |
| K5  | MM10-10012-B90A30-D03 F30M | 2,0   | 0,044  | 0,042  | 0,046  | 0,060  | Non ferrous                     |
|     |                            | 0,080 | 0,0017 | 0,0017 | 0,0018 | 0,0024 |                                 |
| K6  | MM10-10012-B90A30-D03 F30M | 2,0   | 0,050  | 0,048  | 0,050  | 0,065  | Non ferrous                     |
|     |                            | 0,080 | 0,0020 | 0,0019 | 0,0020 | 0,0026 |                                 |
| K7  | MM10-10012-B90A30-D03 F30M | 2,0   | 0,044  | 0,042  | 0,046  | 0,060  | Non ferrous                     |
|     |                            | 0,080 | 0,0017 | 0,0017 | 0,0018 | 0,0024 |                                 |
| N1  | MM10-10012-B90A30-E03 F30M | 2,0   | 0,070  | 0,065  | 0,070  | 0,095  | Hard                            |
|     |                            | 0,080 | 0,0028 | 0,0026 | 0,0028 | 0,0038 |                                 |
| N2  | MM10-10012-B90A30-E03 F30M | 2,0   | 0,070  | 0,065  | 0,070  | 0,095  | Hard                            |
|     |                            | 0,080 | 0,0028 | 0,0026 | 0,0028 | 0,0038 |                                 |
| N3  | MM10-10012-B90A30-E03 F30M | 2,0   | 0,070  | 0,065  | 0,070  | 0,095  | Hard                            |
|     |                            | 0,080 | 0,0028 | 0,0026 | 0,0028 | 0,0038 |                                 |
| N11 | MM10-10012-B90A30-E03 F30M | 2,0   | 0,070  | 0,065  | 0,070  | 0,095  | Hard                            |
|     |                            | 0,080 | 0,0028 | 0,0026 | 0,0028 | 0,0038 |                                 |
| S1  | MM10-10012-B90A30-D03 F30M | 1,2   | 0,038  | 0,036  | 0,036  | 0,046  | Graphite                        |
|     |                            | 0,048 | 0,0015 | 0,0014 | 0,0014 | 0,0019 |                                 |
| S2  | MM10-10012-B90A30-D03 F30M | 1,2   | 0,038  | 0,036  | 0,036  | 0,046  | Graphite                        |
|     |                            | 0,048 | 0,0015 | 0,0014 | 0,0014 | 0,0019 |                                 |
| S3  | MM10-10012-B90A30-D03 F30M | 1,2   | 0,036  | 0,034  | 0,034  | 0,042  | Graphite                        |
|     |                            | 0,048 | 0,0014 | 0,0013 | 0,0013 | 0,0017 |                                 |
| S11 | MM10-10012-B90A30-M03 F40M | 1,4   | 0,042  | 0,042  | 0,042  | 0,055  | X-Heads                         |
|     |                            | 0,055 | 0,0017 | 0,0017 | 0,0017 | 0,0022 |                                 |
| S12 | MM10-10012-B90A30-M03 F40M | 1,4   | 0,042  | 0,042  | 0,042  | 0,055  | X-Heads                         |
|     |                            | 0,055 | 0,0017 | 0,0017 | 0,0017 | 0,0022 |                                 |
| S13 | MM10-10012-B90A30-M03 F40M | 1,2   | 0,038  | 0,036  | 0,036  | 0,046  | X-Heads                         |
|     |                            | 0,048 | 0,0015 | 0,0014 | 0,0014 | 0,0019 |                                 |
| H5  | MM10-10012-B90A30-D03 F30M | 1,7   | 0,034  | 0,034  | 0,034  | 0,044  | X-Heads                         |
|     |                            | 0,065 | 0,0013 | 0,0013 | 0,0013 | 0,0018 |                                 |
| H8  | MM10-10012-B90A30-D03 F30M | 1,4   | 0,028  | 0,026  | 0,026  | 0,034  | X-Heads                         |
|     |                            | 0,055 | 0,0011 | 0,0010 | 0,0010 | 0,0013 |                                 |
| H11 | MM10-10012-B90A30-D03 F30M | 1,7   | 0,034  | 0,034  | 0,034  | 0,044  | X-Heads                         |
|     |                            | 0,065 | 0,0013 | 0,0013 | 0,0013 | 0,0018 |                                 |
| H12 | MM10-10012-B90A30-D03 F30M | 1,4   | 0,028  | 0,026  | 0,026  | 0,034  | Minimaster                      |
|     |                            | 0,055 | 0,0011 | 0,0010 | 0,0010 | 0,0013 |                                 |
| H21 | MM10-10012-B90A30-D03 F30M | 1,4   | 0,028  | 0,026  | 0,026  | 0,034  | Minimaster                      |
|     |                            | 0,055 | 0,0011 | 0,0010 | 0,0010 | 0,0013 |                                 |

SMG = Seco material group

$f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e/DC$  = %

All cutting data are start values

### MM10 Z3 – Copy milling – Insert selection – Finishing – mm/Inch

|                                 | SMG |                            | $a_p$        | $f_z$           |                 |                 |                 |
|---------------------------------|-----|----------------------------|--------------|-----------------|-----------------|-----------------|-----------------|
|                                 |     |                            |              | 15%             | 10%             | 5%              | 2%              |
| Universal                       | P1  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,10<br>0,0040  | 0,16<br>0,0065  |
|                                 | P2  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,16<br>0,0065  |
| Steel and cast iron             | P3  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,095<br>0,0038 | 0,15<br>0,0060  |
|                                 | P4  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,095<br>0,0038 | 0,15<br>0,0060  |
|                                 | P5  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 | 0,15<br>0,0060  |
|                                 | P6  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 | 0,15<br>0,0060  |
|                                 | P7  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 | 0,15<br>0,0060  |
|                                 | P8  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,095<br>0,0038 | 0,15<br>0,0060  |
| Stainless steel and S-materials | P11 | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 | 0,15<br>0,0060  |
|                                 | P12 | MM10-10012-B90A30-E03 F30M | 1,7<br>0,065 | 0,038<br>0,0015 | 0,044<br>0,0018 | 0,060<br>0,0024 | 0,10<br>0,0040  |
|                                 | M1  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,16<br>0,0065  |
|                                 | M2  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 | 0,15<br>0,0060  |
| Non ferrous                     | M3  | MM10-10012-B90A30-E03 F30M | 1,7<br>0,065 | 0,046<br>0,0018 | 0,055<br>0,0022 | 0,075<br>0,0030 | 0,12<br>0,0048  |
|                                 | M4  | MM10-10012-B90A30-E03 F30M | 1,2<br>0,048 | 0,040<br>0,0016 | 0,046<br>0,0019 | 0,065<br>0,0026 | 0,10<br>0,0040  |
|                                 | M5  | MM10-10012-B90A30-E03 F30M | 1,2<br>0,048 | 0,040<br>0,0016 | 0,046<br>0,0019 | 0,065<br>0,0026 | 0,10<br>0,0040  |
|                                 | K1  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,060<br>0,0024 | 0,075<br>0,0030 | 0,10<br>0,0040  | 0,16<br>0,0065  |
|                                 | K2  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 | 0,15<br>0,0060  |
| Hard                            | K3  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 | 0,15<br>0,0060  |
|                                 | K4  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 | 0,15<br>0,0060  |
|                                 | K5  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,080<br>0,0032 | 0,13<br>0,0050  |
|                                 | K6  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 | 0,15<br>0,0060  |
|                                 | K7  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,050<br>0,0020 | 0,060<br>0,0024 | 0,080<br>0,0032 | 0,13<br>0,0050  |
| Plastic and cfrp                | N1  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,13<br>0,0050  | 0,22<br>0,0085  |
|                                 | N2  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,13<br>0,0050  | 0,22<br>0,0085  |
|                                 | N3  | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,13<br>0,0050  | 0,22<br>0,0085  |
|                                 | N11 | MM10-10012-B90A30-E03 F30M | 2,0<br>0,080 | 0,080<br>0,0032 | 0,095<br>0,0038 | 0,13<br>0,0050  | 0,22<br>0,0085  |
| Graphite                        | S1  | MM10-10012-B90A30-E03 F30M | 1,2<br>0,048 | 0,040<br>0,0016 | 0,046<br>0,0019 | 0,065<br>0,0026 | 0,10<br>0,0040  |
|                                 | S2  | MM10-10012-B90A30-E03 F30M | 1,2<br>0,048 | 0,040<br>0,0016 | 0,046<br>0,0019 | 0,065<br>0,0026 | 0,10<br>0,0040  |
|                                 | S3  | MM10-10012-B90A30-E03 F30M | 1,2<br>0,048 | 0,038<br>0,0015 | 0,042<br>0,0017 | 0,060<br>0,0024 | 0,095<br>0,0038 |
|                                 | S11 | MM10-10012-B90A30-E03 F30M | 1,4<br>0,055 | 0,046<br>0,0018 | 0,055<br>0,0022 | 0,075<br>0,0030 | 0,12<br>0,0048  |
| X-Heads                         | S12 | MM10-10012-B90A30-E03 F30M | 1,4<br>0,055 | 0,046<br>0,0018 | 0,055<br>0,0022 | 0,075<br>0,0030 | 0,12<br>0,0048  |
|                                 | S13 | MM10-10012-B90A30-E03 F30M | 1,2<br>0,048 | 0,040<br>0,0016 | 0,046<br>0,0019 | 0,065<br>0,0026 | 0,10<br>0,0040  |
|                                 | H5  | MM10-10012-B90A30-E03 F30M | 1,7<br>0,065 | 0,038<br>0,0015 | 0,044<br>0,0018 | 0,060<br>0,0024 | 0,10<br>0,0040  |
|                                 | H8  | MM10-10012-B90A30-E03 F30M | 1,4<br>0,055 | 0,030<br>0,0012 | 0,034<br>0,0013 | 0,048<br>0,0019 | 0,075<br>0,0030 |
| Minimaster                      | H11 | MM10-10012-B90A30-E03 F30M | 1,7<br>0,065 | 0,038<br>0,0015 | 0,044<br>0,0018 | 0,060<br>0,0024 | 0,10<br>0,0040  |
|                                 | H12 | MM10-10012-B90A30-E03 F30M | 1,4<br>0,055 | 0,030<br>0,0012 | 0,034<br>0,0013 | 0,048<br>0,0019 | 0,075<br>0,0030 |
|                                 | H21 | MM10-10012-B90A30-E03 F30M | 1,4<br>0,055 | 0,030<br>0,0012 | 0,034<br>0,0013 | 0,048<br>0,0019 | 0,075<br>0,0030 |

SMG = Seco material group

$f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %

All cutting data are start values

MM10 Z3 – Copy milling – Cutting data  $v_c = (m/min)/(sf/min)$

| SMG | F30M |      |      |      |      | F40M |      |      |      |      | Universal<br>iron |
|-----|------|------|------|------|------|------|------|------|------|------|-------------------|
|     | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   |                   |
| P1  | 280  | 330  | 355  | 380  | 380  | 270  | 310  | 335  | 365  | 360  |                   |
|     | 920  | 1075 | 1175 | 1250 | 1250 | 890  | 1025 | 1100 | 1200 | 1175 |                   |
| P2  | 275  | 320  | 340  | 370  | 370  | 260  | 305  | 325  | 355  | 355  |                   |
|     | 900  | 1050 | 1125 | 1225 | 1225 | 850  | 1000 | 1075 | 1175 | 1175 |                   |
| P3  | 240  | 280  | 295  | 320  | 320  | 230  | 265  | 280  | 305  | 305  |                   |
|     | 790  | 920  | 970  | 1050 | 1050 | 750  | 870  | 920  | 1000 | 1000 |                   |
| P4  | 210  | 245  | 265  | 285  | 285  | 200  | 235  | 250  | 270  | 270  |                   |
|     | 690  | 800  | 870  | 940  | 940  | 660  | 770  | 820  | 890  | 890  |                   |
| P5  | 200  | 235  | 250  | 275  | 270  | 190  | 225  | 240  | 260  | 260  |                   |
|     | 660  | 770  | 820  | 900  | 890  | 620  | 740  | 790  | 850  | 850  |                   |
| P6  | 225  | 265  | 285  | 305  | 305  | 215  | 250  | 270  | 290  | 290  |                   |
|     | 740  | 870  | 940  | 1000 | 1000 | 710  | 820  | 890  | 950  | 950  |                   |
| P7  | 215  | 250  | 265  | 290  | 285  | 205  | 235  | 255  | 275  | 275  |                   |
|     | 710  | 820  | 870  | 950  | 940  | 670  | 770  | 840  | 900  | 900  |                   |
| P8  | 200  | 235  | 250  | 270  | 270  | 190  | 225  | 235  | 260  | 260  |                   |
|     | 660  | 770  | 820  | 890  | 890  | 620  | 740  | 770  | 850  | 850  |                   |
| P11 | 205  | 240  | 260  | 280  | 280  | 195  | 230  | 245  | 265  | 265  |                   |
|     | 670  | 790  | 850  | 920  | 920  | 640  | 750  | 800  | 870  | 870  |                   |
| P12 | 130  | 160  | 160  | 175  | 175  | 125  | 150  | 155  | 165  | 165  |                   |
|     | 425  | 520  | 520  | 570  | 570  | 410  | 490  | 510  | 540  | 540  |                   |
| M1  | 220  | 255  | 275  | 300  | 300  | 210  | 245  | 260  | 285  | 285  |                   |
|     | 720  | 840  | 900  | 980  | 980  | 690  | 800  | 850  | 940  | 940  |                   |
| M2  | 180  | 210  | 225  | 245  | 245  | 175  | 200  | 215  | 235  | 230  |                   |
|     | 590  | 690  | 740  | 800  | 800  | 570  | 660  | 710  | 770  | 750  |                   |
| M3  | 145  | 175  | 175  | 190  | 190  | 135  | 165  | 170  | 185  | 180  |                   |
|     | 475  | 570  | 590  | 620  | 620  | 445  | 540  | 560  | 610  | 590  |                   |
| M4  | 95   | 140  | 135  | 145  | 145  | 95   | 130  | 130  | 140  | 140  |                   |
|     | 310  | 460  | 475  | 475  | 475  | 310  | 425  | 445  | 460  | 460  |                   |
| M5  | 80   | 115  | 115  | 120  | 120  | 75   | 110  | 105  | 115  | 115  |                   |
|     | 260  | 375  | 395  | 395  | 395  | 245  | 360  | 375  | 375  | 375  |                   |
| K1  | 220  | 255  | 270  | 295  | 295  | 205  | 240  | 255  | 280  | 280  |                   |
|     | 720  | 840  | 890  | 970  | 970  | 670  | 790  | 840  | 920  | 920  |                   |
| K2  | 190  | 220  | 240  | 260  | 255  | 180  | 210  | 230  | 245  | 245  |                   |
|     | 620  | 720  | 790  | 850  | 840  | 590  | 690  | 750  | 800  | 800  |                   |
| K3  | 160  | 190  | 200  | 220  | 215  | 155  | 180  | 195  | 210  | 205  |                   |
|     | 520  | 620  | 660  | 720  | 710  | 510  | 590  | 640  | 690  | 670  |                   |
| K4  | 155  | 180  | 195  | 210  | 205  | 145  | 170  | 185  | 200  | 195  |                   |
|     | 510  | 590  | 640  | 690  | 670  | 475  | 560  | 610  | 660  | 640  |                   |
| K5  | 95   | 110  | 115  | 125  | 125  | 90   | 105  | 110  | 120  | 120  |                   |
|     | 310  | 360  | 375  | 410  | 410  | 295  | 345  | 360  | 395  | 395  |                   |
| K6  | 135  | 160  | 170  | 185  | 185  | 130  | 150  | 160  | 175  | 175  |                   |
|     | 445  | 520  | 560  | 610  | 610  | 425  | 490  | 520  | 570  | 570  |                   |
| K7  | 120  | 140  | 150  | 160  | 160  | 115  | 130  | 140  | 155  | 155  |                   |
|     | 395  | 460  | 490  | 520  | 520  | 375  | 425  | 460  | 510  | 510  |                   |
| N1  | 1650 | 1925 | 2050 | 2225 | 2200 | 1575 | 1825 | 1950 | 2125 | 2100 |                   |
|     | 5425 | 6325 | 6725 | 7300 | 7225 | 5175 | 6000 | 6400 | 6975 | 6900 |                   |
| N2  | 670  | 780  | 830  | 900  | 890  | 640  | 740  | 790  | 860  | 850  |                   |
|     | 2200 | 2550 | 2725 | 2950 | 2925 | 2100 | 2425 | 2600 | 2825 | 2800 |                   |
| N3  | 445  | 520  | 550  | 600  | 590  | 425  | 495  | 530  | 570  | 560  |                   |
|     | 1450 | 1700 | 1800 | 1975 | 1925 | 1400 | 1625 | 1750 | 1875 | 1825 |                   |
| N11 | 510  | 590  | 630  | 690  | 680  | 485  | 560  | 600  | 650  | 650  |                   |
|     | 1675 | 1925 | 2075 | 2275 | 2225 | 1600 | 1825 | 1975 | 2125 | 2125 |                   |
| S1  | 45   | 65   | 65   | 70   | 70   | 43   | 60   | 60   | 65   | 65   |                   |
|     | 150  | 215  | 215  | 230  | 230  | 140  | 195  | 215  | 215  | 215  |                   |
| S2  | 37   | 50   | 50   | 55   | 55   | 35   | 49   | 48   | 50   | 50   |                   |
|     | 120  | 165  | 180  | 180  | 180  | 115  | 160  | 165  | 165  | 165  |                   |
| S3  | 32   | 45   | 44   | 48   | 48   | 30   | 43   | 42   | 46   | 45   |                   |
|     | 105  | 150  | 155  | 155  | 155  | 100  | 140  | 150  | 150  | 150  |                   |
| S11 | 70   | 90   | 90   | 95   | 95   | 65   | 85   | 85   | 90   | 90   |                   |
|     | 230  | 295  | 295  | 310  | 310  | 215  | 280  | 280  | 295  | 295  |                   |
| S12 | 48   | 60   | 60   | 65   | 65   | 45   | 60   | 60   | 65   | 65   |                   |
|     | 155  | 195  | 215  | 215  | 215  | 150  | 195  | 195  | 215  | 215  |                   |
| S13 | 26   | 36   | 36   | 38   | 38   | 24   | 34   | 34   | 37   | 37   |                   |
|     | 85   | 120  | 125  | 125  | 125  | 80   | 110  | 120  | 120  | 120  |                   |
| H5  | 43   | 55   | 55   | 60   | 55   | 41   | 50   | 50   | 55   | 55   |                   |
|     | 140  | 180  | 180  | 195  | 180  | 135  | 165  | 165  | 180  | 180  |                   |
| H8  | 41   | 55   | 55   | 60   | 60   | 39   | 50   | 50   | 55   | 55   |                   |
|     | 135  | 180  | 180  | 195  | 195  | 130  | 165  | 180  | 180  | 180  |                   |
| H11 | 55   | 65   | 70   | 75   | 75   | 50   | 65   | 65   | 70   | 70   |                   |
|     | 180  | 215  | 230  | 245  | 245  | 165  | 215  | 215  | 230  | 230  |                   |
| H12 | 75   | 100  | 100  | 105  | 105  | 70   | 95   | 95   | 100  | 100  |                   |
|     | 245  | 330  | 330  | 345  | 345  | 230  | 310  | 310  | 330  | 330  |                   |
| H21 | 41   | 55   | 55   | 60   | 60   | 39   | 50   | 50   | 55   | 55   |                   |
|     | 135  | 180  | 180  | 195  | 195  | 130  | 165  | 180  | 180  | 180  |                   |

### MM10 Z2 – Copy milling – Insert selection – Roughing – mm/Inch

|                                 | SMG |                          | $a_p$       | $f_z$           |                 |                 |                 |
|---------------------------------|-----|--------------------------|-------------|-----------------|-----------------|-----------------|-----------------|
|                                 |     |                          |             | 100%            | 40%             | 20%             | 10%             |
| Universal                       | P1  | MM10-10010-B90S-E04 F30M | 4,0<br>0,16 | 0,060<br>0.0024 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 |
|                                 | P2  | MM10-10010-B90S-E04 F30M | 4,0<br>0,16 | 0,065<br>0.0026 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 |
| Steel and cast iron             | P3  | MM10-10010-B90S-E04 F30M | 4,0<br>0,16 | 0,060<br>0.0024 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 |
|                                 | P4  | MM10-10010-B90-MD04 F30M | 4,0<br>0,16 | 0,060<br>0.0024 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 |
|                                 | P5  | MM10-10010-B90-MD04 F30M | 4,0<br>0,16 | 0,060<br>0.0024 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 |
|                                 | P6  | MM10-10010-B90-MD04 F30M | 4,0<br>0,16 | 0,055<br>0.0022 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,085<br>0.0034 |
|                                 | P7  | MM10-10010-B90-MD04 F30M | 4,0<br>0,16 | 0,055<br>0.0022 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,085<br>0.0034 |
|                                 | P8  | MM10-10010-B90-MD04 F30M | 4,0<br>0,16 | 0,060<br>0.0024 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,090<br>0.0036 |
| Stainless steel and S-materials | P11 | MM10-10010-B90-MD04 F30M | 4,0<br>0,16 | 0,055<br>0.0022 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,085<br>0.0034 |
|                                 | P12 | MM10-10010-B90-MD04 F30M | 3,5<br>0,14 | 0,040<br>0.0016 | 0,040<br>0.0016 | 0,046<br>0.0018 | 0,060<br>0.0024 |
|                                 | M1  | MM10-10010-B90S-E04 F30M | 4,0<br>0,16 | 0,065<br>0.0026 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 |
|                                 | M2  | MM10-10010-B90S-E04 F30M | 4,0<br>0,16 | 0,060<br>0.0024 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 |
| Non ferrous                     | M3  | MM10-10010-B90S-E04 F30M | 3,5<br>0,14 | 0,048<br>0.0019 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 |
|                                 | M4  | MM10-10010-B90-MD04 F30M | 2,5<br>0,10 | 0,044<br>0.0017 | 0,044<br>0.0017 | 0,048<br>0.0019 | 0,060<br>0.0026 |
|                                 | M5  | MM10-10010-B90-MD04 F30M | 2,5<br>0,10 | 0,044<br>0.0017 | 0,044<br>0.0017 | 0,048<br>0.0019 | 0,060<br>0.0026 |
|                                 | K1  | MM10-10010-B90S-E04 F30M | 4,0<br>0,16 | 0,065<br>0.0026 | 0,065<br>0.0026 | 0,075<br>0.0030 | 0,095<br>0.0038 |
|                                 | K2  | MM10-10010-B90S-E04 F30M | 4,0<br>0,16 | 0,060<br>0.0024 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 |
| Hard                            | K3  | MM10-10010-B90S-E04 F30M | 4,0<br>0,16 | 0,060<br>0.0024 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 |
|                                 | K4  | MM10-10010-B90S-E04 F30M | 4,0<br>0,16 | 0,060<br>0.0024 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 |
|                                 | K5  | MM10-10010-B90-MD04 F30M | 4,0<br>0,16 | 0,050<br>0.0020 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 |
|                                 | K6  | MM10-10010-B90-MD04 F30M | 4,0<br>0,16 | 0,060<br>0.0024 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 |
|                                 | K7  | MM10-10010-B90-MD04 F30M | 4,0<br>0,16 | 0,050<br>0.0020 | 0,050<br>0.0020 | 0,060<br>0.0024 | 0,080<br>0.0032 |
| Plastic and cfrp                | N1  | MM10-10010-B90S-E04 F30M | 4,0<br>0,16 | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  |
|                                 | N2  | MM10-10010-B90S-E04 F30M | 4,0<br>0,16 | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  |
|                                 | N3  | MM10-10010-B90S-E04 F30M | 4,0<br>0,16 | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  |
|                                 | N11 | MM10-10010-B90S-E04 F30M | 4,0<br>0,16 | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0048  |
| Graphite                        | S1  | MM10-10010-B90S-E04 F30M | 2,5<br>0,10 | 0,044<br>0.0017 | 0,044<br>0.0017 | 0,048<br>0.0019 | 0,060<br>0.0026 |
|                                 | S2  | MM10-10010-B90S-E04 F30M | 2,5<br>0,10 | 0,044<br>0.0017 | 0,044<br>0.0017 | 0,048<br>0.0019 | 0,060<br>0.0026 |
|                                 | S3  | MM10-10010-B90S-E04 F30M | 2,5<br>0,10 | 0,042<br>0.0017 | 0,042<br>0.0017 | 0,044<br>0.0017 | 0,055<br>0.0024 |
|                                 | S11 | MM10-10010-B90S-E04 F30M | 3,0<br>0,12 | 0,048<br>0.0019 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 |
| X-Heads                         | S12 | MM10-10010-B90S-E04 F30M | 3,0<br>0,12 | 0,048<br>0.0019 | 0,048<br>0.0019 | 0,055<br>0.0022 | 0,070<br>0.0028 |
|                                 | S13 | MM10-10010-B90S-E04 F30M | 2,5<br>0,10 | 0,044<br>0.0017 | 0,044<br>0.0017 | 0,048<br>0.0019 | 0,060<br>0.0026 |
|                                 | H5  | MM10-10010-B90-MD04 F30M | 3,5<br>0,14 | 0,040<br>0.0016 | 0,040<br>0.0016 | 0,046<br>0.0018 | 0,060<br>0.0024 |
|                                 | H8  | MM10-10010-B90-MD04 F30M | 3,0<br>0,12 | 0,032<br>0.0013 | 0,032<br>0.0013 | 0,036<br>0.0014 | 0,046<br>0.0018 |
| Minimaster                      | H11 | MM10-10010-B90-MD04 F30M | 3,5<br>0,14 | 0,040<br>0.0016 | 0,040<br>0.0016 | 0,046<br>0.0018 | 0,060<br>0.0024 |
|                                 | H12 | MM10-10010-B90-MD04 F30M | 3,0<br>0,12 | 0,032<br>0.0013 | 0,032<br>0.0013 | 0,036<br>0.0014 | 0,046<br>0.0018 |
|                                 | H21 | MM10-10010-B90-MD04 F30M | 3,0<br>0,12 | 0,032<br>0.0013 | 0,032<br>0.0013 | 0,036<br>0.0014 | 0,046<br>0.0018 |

SMG = Seco material group

$f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %

All cutting data are start values



**MM10 Z2 – Copy milling – Insert selection – Finishing – mm/Inch**

| SMG |                           | $a_p$        | $f_z$            |                  |                 |                 |
|-----|---------------------------|--------------|------------------|------------------|-----------------|-----------------|
|     |                           |              | 15%              | 10%              | 5%              | 2%              |
| P1  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,040<br>0.0016  | 0,048<br>0.0019  | 0,065<br>0.0026 | 0,11<br>0.0044  |
| P2  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,042<br>0.0017  | 0,048<br>0.0019  | 0,070<br>0.0028 | 0,11<br>0.0044  |
| P3  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,038<br>0.0015  | 0,046<br>0.0018  | 0,065<br>0.0026 | 0,10<br>0.0040  |
| P4  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,038<br>0.0015  | 0,046<br>0.0018  | 0,065<br>0.0026 | 0,10<br>0.0040  |
| P5  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,10<br>0.0040  |
| P6  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,095<br>0.0038 |
| P7  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,095<br>0.0038 |
| P8  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,038<br>0.0015  | 0,046<br>0.0018  | 0,065<br>0.0026 | 0,10<br>0.0040  |
| P11 | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,095<br>0.0038 |
| P12 | MM10-10010-B90PF-M02 F15M | 3,0<br>0.12  | 0,026<br>0.0010  | 0,030<br>0.0012  | 0,042<br>0.0017 | 0,065<br>0.0026 |
| M1  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,042<br>0.0017  | 0,048<br>0.0019  | 0,070<br>0.0028 | 0,11<br>0.0044  |
| M2  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,10<br>0.0040  |
| M3  | MM10-10010-B90PF-M02 F15M | 3,0<br>0.12  | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,048<br>0.0019 | 0,075<br>0.0030 |
| M4  | MM10-10010-B90PF-M02 F15M | 2,0<br>0.080 | 0,028<br>0.0011  | 0,030<br>0.0013  | 0,042<br>0.0017 | 0,070<br>0.0028 |
| M5  | MM10-10010-B90PF-M02 F15M | 2,0<br>0.080 | 0,028<br>0.0011  | 0,030<br>0.0013  | 0,042<br>0.0017 | 0,070<br>0.0028 |
| K1  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,042<br>0.0017  | 0,048<br>0.0019  | 0,070<br>0.0028 | 0,11<br>0.0044  |
| K2  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,10<br>0.0040  |
| K3  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,10<br>0.0040  |
| K4  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,10<br>0.0040  |
| K5  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,034<br>0.0013  | 0,040<br>0.0016  | 0,055<br>0.0022 | 0,085<br>0.0034 |
| K6  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,10<br>0.0040  |
| K7  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,034<br>0.0013  | 0,040<br>0.0016  | 0,055<br>0.0022 | 0,085<br>0.0034 |
| N1  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,085<br>0.0034 | 0,14<br>0.0055  |
| N2  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,085<br>0.0034 | 0,14<br>0.0055  |
| N3  | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,085<br>0.0034 | 0,14<br>0.0055  |
| N11 | MM10-10010-B90PF-M02 F15M | 3,5<br>0.14  | 0,050<br>0.0020  | 0,060<br>0.0024  | 0,085<br>0.0034 | 0,14<br>0.0055  |
| S1  | MM10-10010-B90PF-M02 F15M | 2,0<br>0.080 | 0,028<br>0.0011  | 0,030<br>0.0013  | 0,042<br>0.0017 | 0,070<br>0.0028 |
| S2  | MM10-10010-B90PF-M02 F15M | 2,0<br>0.080 | 0,028<br>0.0011  | 0,030<br>0.0013  | 0,042<br>0.0017 | 0,070<br>0.0028 |
| S3  | MM10-10010-B90PF-M02 F15M | 2,0<br>0.080 | 0,025<br>0.0010  | 0,028<br>0.0012  | 0,040<br>0.0016 | 0,065<br>0.0026 |
| S11 | MM10-10010-B90PF-M02 F15M | 2,5<br>0.10  | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,048<br>0.0019 | 0,075<br>0.0030 |
| S12 | MM10-10010-B90PF-M02 F15M | 2,5<br>0.10  | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,048<br>0.0019 | 0,075<br>0.0030 |
| S13 | MM10-10010-B90PF-M02 F15M | 2,0<br>0.080 | 0,028<br>0.0011  | 0,030<br>0.0013  | 0,042<br>0.0017 | 0,070<br>0.0028 |
| H5  | MM10-10010-B90PF-M02 F15M | 3,0<br>0.12  | 0,026<br>0.0010  | 0,030<br>0.0012  | 0,042<br>0.0017 | 0,065<br>0.0026 |
| H8  | MM10-10010-B90PF-M02 F15M | 2,5<br>0.10  | 0,020<br>0.00080 | 0,022<br>0.00095 | 0,032<br>0.0013 | 0,050<br>0.0020 |
| H11 | MM10-10010-B90PF-M02 F15M | 3,0<br>0.12  | 0,026<br>0.0010  | 0,030<br>0.0012  | 0,042<br>0.0017 | 0,065<br>0.0026 |
| H12 | MM10-10010-B90PF-M02 F15M | 2,5<br>0.10  | 0,020<br>0.00080 | 0,022<br>0.00095 | 0,032<br>0.0013 | 0,050<br>0.0020 |
| H21 | MM10-10010-B90PF-M02 F15M | 2,5<br>0.10  | 0,020<br>0.00080 | 0,022<br>0.00095 | 0,032<br>0.0013 | 0,050<br>0.0020 |

SMG = Seco material group  
 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e/DC$  = %  
 All cutting data are start values

Universal  
 Steel and cast iron  
 Stainless steel and S-materials  
 Stainless steel and S-materials  
 Non ferrous  
 Hard  
 Graphite  
 X-Heads  
 Minimaster

MM10 Z2 – Copy milling – Cutting data  $v_c = (m/min)/(sf/min)$ 

|                                 | SMG | F15M |      |      |      |      | F30M |      |      |      |      | T60M |      |      |      |      |
|---------------------------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|                                 |     | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   |
| Universal                       | P1  | 305  | 390  | 405  | 440  | 440  | 250  | 320  | 340  | 370  | 365  | 205  | 260  | 275  | 300  | 295  |
|                                 |     | 1000 | 1275 | 1325 | 1450 | 1450 | 820  | 1050 | 1125 | 1225 | 1200 | 670  | 850  | 900  | 980  | 970  |
| Steel and cast iron             | P2  | 295  | 380  | 395  | 425  | 425  | 240  | 305  | 330  | 355  | 355  | 195  | 250  | 270  | 285  | 285  |
|                                 |     | 970  | 1250 | 1300 | 1400 | 1400 | 790  | 1000 | 1075 | 1175 | 1175 | 640  | 820  | 890  | 940  | 940  |
|                                 | P3  | 260  | 330  | 340  | 370  | 370  | 210  | 265  | 285  | 310  | 310  | 170  | 215  | 235  | 250  | 250  |
|                                 |     | 850  | 1075 | 1125 | 1225 | 1225 | 690  | 870  | 940  | 1025 | 1025 | 560  | 710  | 770  | 820  | 820  |
|                                 | P4  | 225  | 290  | 300  | 325  | 325  | 185  | 235  | 255  | 270  | 275  | 150  | 190  | 205  | 220  | 220  |
|                                 |     | 740  | 950  | 980  | 1075 | 1075 | 610  | 770  | 840  | 890  | 900  | 490  | 620  | 670  | 720  | 720  |
|                                 | P5  | 215  | 275  | 290  | 315  | 310  | 175  | 225  | 240  | 265  | 260  | 145  | 185  | 195  | 215  | 210  |
|                                 |     | 710  | 900  | 950  | 1025 | 1025 | 570  | 740  | 790  | 870  | 850  | 475  | 610  | 640  | 710  | 690  |
|                                 | P6  | 245  | 310  | 325  | 350  | 350  | 200  | 255  | 275  | 295  | 295  | 165  | 205  | 220  | 240  | 235  |
|                                 |     | 800  | 1025 | 1075 | 1150 | 1150 | 660  | 840  | 900  | 970  | 970  | 540  | 670  | 720  | 790  | 770  |
| Stainless steel and S-materials | P7  | 230  | 295  | 305  | 330  | 330  | 190  | 240  | 260  | 280  | 275  | 155  | 195  | 210  | 225  | 225  |
|                                 |     | 750  | 970  | 1000 | 1075 | 1075 | 620  | 790  | 850  | 920  | 900  | 510  | 640  | 690  | 740  | 740  |
|                                 | P8  | 215  | 275  | 290  | 310  | 310  | 175  | 225  | 240  | 260  | 260  | 145  | 180  | 195  | 210  | 210  |
|                                 |     | 710  | 900  | 950  | 1025 | 1025 | 570  | 740  | 790  | 850  | 850  | 475  | 590  | 640  | 690  | 690  |
|                                 | P11 | 225  | 285  | 295  | 325  | 320  | 185  | 235  | 250  | 270  | 270  | 150  | 190  | 205  | 220  | 215  |
|                                 |     | 740  | 940  | 970  | 1075 | 1050 | 610  | 770  | 820  | 890  | 890  | 490  | 620  | 670  | 720  | 710  |
|                                 | P12 | 140  | 175  | 180  | 195  | 195  | 120  | 150  | 155  | 170  | 170  | 95   | 120  | 125  | 135  | 135  |
|                                 |     | 460  | 570  | 610  | 640  | 640  | 395  | 490  | 510  | 560  | 560  | 310  | 395  | 410  | 445  | 445  |
| Non ferrous                     | M1  | 240  | 305  | 320  | 345  | 345  | 195  | 245  | 265  | 285  | 285  | 160  | 200  | 215  | 230  | 230  |
|                                 |     | 790  | 1000 | 1050 | 1125 | 1125 | 640  | 800  | 870  | 940  | 940  | 520  | 660  | 710  | 750  | 750  |
|                                 | M2  | 195  | 250  | 260  | 280  | 280  | 160  | 205  | 215  | 235  | 235  | 130  | 165  | 175  | 190  | 190  |
|                                 |     | 640  | 820  | 850  | 920  | 920  | 520  | 670  | 710  | 770  | 770  | 425  | 540  | 570  | 620  | 620  |
|                                 | M3  | 155  | 200  | 200  | 220  | 220  | 130  | 165  | 175  | 185  | 185  | 105  | 135  | 140  | 150  | 150  |
|                                 |     | 510  | 660  | 670  | 720  | 720  | 425  | 540  | 570  | 610  | 610  | 345  | 445  | 460  | 490  | 490  |
|                                 | M4  | 120  | 155  | 155  | 165  | 165  | 105  | 135  | 130  | 145  | 140  | 85   | 105  | 105  | 115  | 115  |
|                                 |     | 395  | 510  | 560  | 540  | 540  | 345  | 445  | 460  | 475  | 460  | 280  | 345  | 375  | 375  | 375  |
|                                 | M5  | 100  | 130  | 130  | 140  | 140  | 85   | 110  | 110  | 120  | 120  | 70   | 90   | 90   | 95   | 95   |
|                                 |     | 330  | 425  | 460  | 460  | 460  | 280  | 360  | 375  | 395  | 395  | 230  | 295  | 310  | 310  | 310  |
| Hard                            | K1  | 235  | 300  | 315  | 335  | 335  | 190  | 245  | 260  | 280  | 280  | 155  | 195  | 210  | 225  | 225  |
|                                 |     | 770  | 980  | 1025 | 1100 | 1100 | 620  | 800  | 850  | 920  | 920  | 510  | 640  | 690  | 740  | 740  |
|                                 | K2  | 205  | 265  | 275  | 295  | 295  | 170  | 215  | 230  | 250  | 250  | 135  | 175  | 185  | 200  | 200  |
|                                 |     | 670  | 870  | 900  | 970  | 970  | 560  | 710  | 750  | 820  | 820  | 445  | 570  | 610  | 660  | 660  |
|                                 | K3  | 175  | 225  | 230  | 250  | 250  | 140  | 180  | 195  | 210  | 210  | 115  | 150  | 155  | 170  | 170  |
|                                 |     | 570  | 740  | 750  | 820  | 820  | 460  | 590  | 640  | 690  | 690  | 375  | 490  | 510  | 560  | 560  |
| Plastic and cfrp                | K4  | 165  | 215  | 220  | 240  | 240  | 135  | 175  | 185  | 200  | 200  | 110  | 140  | 150  | 165  | 160  |
|                                 |     | 540  | 710  | 720  | 790  | 790  | 445  | 570  | 610  | 660  | 660  | 360  | 460  | 490  | 540  | 520  |
|                                 | K5  | 100  | 130  | 135  | 145  | 145  | 85   | 105  | 110  | 120  | 120  | 70   | 85   | 90   | 100  | 100  |
|                                 |     | 330  | 425  | 445  | 475  | 475  | 280  | 345  | 360  | 395  | 395  | 230  | 280  | 295  | 330  | 330  |
|                                 | K6  | 145  | 185  | 195  | 210  | 210  | 120  | 155  | 165  | 180  | 175  | 95   | 125  | 130  | 145  | 145  |
|                                 |     | 475  | 610  | 640  | 690  | 690  | 395  | 510  | 540  | 590  | 570  | 310  | 410  | 425  | 475  | 475  |
|                                 | K7  | 130  | 165  | 170  | 185  | 185  | 105  | 135  | 145  | 155  | 155  | 85   | 110  | 115  | 125  | 125  |
|                                 |     | 425  | 540  | 560  | 610  | 610  | 345  | 445  | 475  | 510  | 510  | 280  | 360  | 375  | 410  | 410  |
| Graphite                        | N1  | 1800 | 2300 | 2425 | 2600 | 2600 | 1450 | 1825 | 1975 | 2150 | 2100 | 1175 | 1475 | 1600 | 1725 | 1700 |
|                                 |     | 5900 | 7550 | 7950 | 8525 | 8525 | 4750 | 6000 | 6475 | 7050 | 6900 | 3850 | 4850 | 5250 | 5650 | 5575 |
|                                 | N2  | 730  | 930  | 970  | 1050 | 1050 | 590  | 740  | 800  | 870  | 850  | 475  | 600  | 650  | 700  | 680  |
|                                 |     | 2400 | 3050 | 3175 | 3450 | 3450 | 1925 | 2425 | 2625 | 2850 | 2800 | 1550 | 1975 | 2125 | 2300 | 2225 |
|                                 | N3  | 485  | 620  | 650  | 700  | 700  | 390  | 495  | 530  | 580  | 560  | 315  | 400  | 435  | 465  | 455  |
|                                 |     | 1600 | 2025 | 2125 | 2300 | 2300 | 1275 | 1625 | 1750 | 1900 | 1825 | 1025 | 1300 | 1425 | 1525 | 1500 |
|                                 | N11 | 550  | 710  | 740  | 800  | 800  | 450  | 570  | 610  | 660  | 640  | 360  | 460  | 495  | 530  | 520  |
|                                 |     | 1800 | 2325 | 2425 | 2625 | 2625 | 1475 | 1875 | 2000 | 2175 | 2100 | 1175 | 1500 | 1625 | 1750 | 1700 |
| X-Heads                         | S1  | 55   | 70   | 70   | 80   | 75   | 48   | 60   | 60   | 65   | 65   | 39   | 50   | 50   | 55   | 55   |
|                                 |     | 180  | 230  | 260  | 260  | 245  | 155  | 195  | 215  | 215  | 215  | 130  | 165  | 180  | 180  | 180  |
|                                 | S2  | 46   | 60   | 60   | 65   | 60   | 39   | 50   | 50   | 55   | 55   | 32   | 40   | 40   | 43   | 43   |
|                                 |     | 150  | 195  | 215  | 215  | 195  | 130  | 165  | 180  | 180  | 180  | 105  | 130  | 140  | 140  | 140  |
|                                 | S3  | 40   | 50   | 50   | 55   | 55   | 34   | 43   | 43   | 47   | 46   | 27   | 35   | 35   | 38   | 38   |
|                                 |     | 130  | 165  | 180  | 180  | 180  | 110  | 140  | 150  | 155  | 150  | 90   | 115  | 120  | 125  | 125  |
|                                 | S11 | 80   | 100  | 100  | 110  | 110  | 65   | 85   | 85   | 95   | 95   | 55   | 70   | 70   | 75   | 75   |
|                                 |     | 260  | 330  | 360  | 360  | 360  | 215  | 280  | 295  | 310  | 310  | 180  | 230  | 245  | 245  | 245  |
|                                 | S12 | 55   | 70   | 70   | 75   | 75   | 47   | 60   | 60   | 65   | 65   | 38   | 48   | 49   | 55   | 55   |
|                                 |     | 180  | 230  | 245  | 245  | 245  | 155  | 195  | 195  | 215  | 215  | 125  | 155  | 165  | 180  | 180  |
| Minimaster                      | S13 | 32   | 41   | 40   | 44   | 43   | 27   | 35   | 35   | 37   | 37   | 22   | 28   | 28   | 30   | 30   |
|                                 |     | 105  | 135  | 145  | 145  | 140  | 90   | 115  | 120  | 120  | 120  | 70   | 90   | 100  | 100  | 100  |
|                                 | H5  | 46   | 60   | 60   | 65   | 65   | 39   | 50   | 50   | 55   | 55   | 32   | 41   | 42   | 45   | 45   |
|                                 |     | 150  | 195  | 195  | 215  | 215  | 130  | 165  | 165  | 180  | 180  | 105  | 135  | 140  | 150  | 150  |
|                                 | H8  | 48   | 60   | 60   | 65   | 65   | 41   | 55   | 55   | 60   | 60   | 33   | 43   | 43   | 47   | 47   |
|                                 |     | 155  | 195  | 215  | 215  | 215  | 135  | 180  | 180  | 195  | 195  | 110  | 140  | 150  | 155  | 155  |
|                                 | H11 | 60   | 75   | 75   | 85   | 85   | 50   | 65   | 65   | 70   | 70   | 40   | 50   | 55   | 60   | 60   |
|                                 |     | 195  | 245  | 260  | 280  | 280  | 165  | 215  | 215  | 230  | 230  | 130  | 165  | 180  | 195  | 195  |
|                                 | H12 | 85   | 110  | 110  | 120  | 120  | 75   | 95   | 95   | 105  | 105  | 60   | 75   | 80   | 85   | 85   |
|                                 |     | 280  | 360  | 375  | 395  | 395  | 245  | 310  | 330  | 345  | 345  | 195  | 245  | 260  | 280  | 280  |
|                                 | H21 | 48   | 60   | 60   | 65   | 65   | 41   | 55   | 55   | 60   | 60   | 33   | 43   | 43   | 47   | 47   |
|                                 |     | 155  | 195  | 215  | 215  | 215  | 135  | 180  | 180  | 195  | 195  | 110  | 140  | 150  | 155  | 155  |



**MM10 High-Feed – Insert selection – mm/Inch**

| SMG |                         | $a_p$          | $f_z$          |                |               |               |
|-----|-------------------------|----------------|----------------|----------------|---------------|---------------|
|     |                         |                | 100%           | 70%            | 30%           | 20%           |
| P1  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,48<br>0.019  | 0,48<br>0.019  | 0,65<br>0.026 | 0,80<br>0.032 |
| P2  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,50<br>0.020  | 0,50<br>0.020  | 0,65<br>0.026 | 0,80<br>0.032 |
| P3  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,46<br>0.018  | 0,46<br>0.018  | 0,60<br>0.024 | 0,75<br>0.030 |
| P4  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,46<br>0.018  | 0,46<br>0.018  | 0,60<br>0.024 | 0,75<br>0.030 |
| P5  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,44<br>0.017  | 0,46<br>0.018  | 0,60<br>0.024 | 0,75<br>0.030 |
| P6  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,44<br>0.017  | 0,44<br>0.017  | 0,60<br>0.024 | 0,75<br>0.030 |
| P7  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,44<br>0.017  | 0,44<br>0.017  | 0,60<br>0.024 | 0,75<br>0.030 |
| P8  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,46<br>0.018  | 0,46<br>0.018  | 0,60<br>0.024 | 0,75<br>0.030 |
| P11 | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,44<br>0.017  | 0,44<br>0.017  | 0,60<br>0.024 | 0,75<br>0.030 |
| P12 | MM10-10.50-HF-MD08 F30M | 0,25<br>0.010  | 0,30<br>0.012  | 0,30<br>0.012  | 0,40<br>0.016 | 0,48<br>0.019 |
| M1  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,50<br>0.020  | 0,50<br>0.020  | 0,65<br>0.026 | 0,80<br>0.032 |
| M2  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,44<br>0.017  | 0,46<br>0.018  | 0,60<br>0.024 | 0,75<br>0.030 |
| M3  | MM10-10.50-HF-MD08 F30M | 0,25<br>0.010  | 0,36<br>0.014  | 0,36<br>0.014  | 0,46<br>0.018 | 0,55<br>0.022 |
| M4  | MM10-10.50-HF-MD08 F30M | 0,18<br>0.0070 | 0,32<br>0.013  | 0,32<br>0.013  | 0,40<br>0.016 | 0,50<br>0.020 |
| M5  | MM10-10.50-HF-MD08 F30M | 0,18<br>0.0070 | 0,32<br>0.013  | 0,32<br>0.013  | 0,40<br>0.016 | 0,50<br>0.020 |
| K1  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,50<br>0.020  | 0,50<br>0.020  | 0,65<br>0.026 | 0,80<br>0.032 |
| K2  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,44<br>0.017  | 0,46<br>0.018  | 0,60<br>0.024 | 0,75<br>0.030 |
| K3  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,44<br>0.017  | 0,46<br>0.018  | 0,60<br>0.024 | 0,75<br>0.030 |
| K4  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,44<br>0.017  | 0,46<br>0.018  | 0,60<br>0.024 | 0,75<br>0.030 |
| K5  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,40<br>0.016  | 0,40<br>0.016  | 0,55<br>0.022 | 0,65<br>0.026 |
| K6  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,44<br>0.017  | 0,46<br>0.018  | 0,60<br>0.024 | 0,75<br>0.030 |
| K7  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,40<br>0.016  | 0,40<br>0.016  | 0,55<br>0.022 | 0,65<br>0.026 |
| N1  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,65<br>0.026  | 0,65<br>0.026  | 0,85<br>0.034 | 1,1<br>0.044  |
| N2  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,65<br>0.026  | 0,65<br>0.026  | 0,85<br>0.034 | 1,1<br>0.044  |
| N3  | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,65<br>0.026  | 0,65<br>0.026  | 0,85<br>0.034 | 1,1<br>0.044  |
| N11 | MM10-10.50-HF-MD08 F30M | 0,30<br>0.012  | 0,65<br>0.026  | 0,65<br>0.026  | 0,85<br>0.034 | 1,1<br>0.044  |
| S1  | MM10-10.50-HF-MD08 F30M | 0,18<br>0.0070 | 0,32<br>0.013  | 0,32<br>0.013  | 0,40<br>0.016 | 0,50<br>0.020 |
| S2  | MM10-10.50-HF-MD08 F30M | 0,18<br>0.0070 | 0,32<br>0.013  | 0,32<br>0.013  | 0,40<br>0.016 | 0,50<br>0.020 |
| S3  | MM10-10.50-HF-MD08 F30M | 0,18<br>0.0070 | 0,30<br>0.012  | 0,30<br>0.012  | 0,38<br>0.015 | 0,46<br>0.018 |
| S11 | MM10-10.50-HF-MD08 F30M | 0,22<br>0.0085 | 0,36<br>0.014  | 0,36<br>0.014  | 0,46<br>0.018 | 0,55<br>0.022 |
| S12 | MM10-10.50-HF-MD08 F30M | 0,22<br>0.0085 | 0,36<br>0.014  | 0,36<br>0.014  | 0,46<br>0.018 | 0,55<br>0.022 |
| S13 | MM10-10.50-HF-MD08 F30M | 0,18<br>0.0070 | 0,32<br>0.013  | 0,32<br>0.013  | 0,40<br>0.016 | 0,50<br>0.020 |
| H5  | MM10-10.50-HF-MD08 F15M | 0,25<br>0.010  | 0,30<br>0.012  | 0,30<br>0.012  | 0,40<br>0.016 | 0,48<br>0.019 |
| H8  | MM10-10.50-HF-MD08 F15M | 0,22<br>0.0085 | 0,24<br>0.0095 | 0,24<br>0.0095 | 0,30<br>0.012 | 0,36<br>0.014 |
| H11 | MM10-10.50-HF-MD08 F15M | 0,25<br>0.010  | 0,30<br>0.012  | 0,30<br>0.012  | 0,40<br>0.016 | 0,48<br>0.019 |
| H12 | MM10-10.50-HF-MD08 F15M | 0,22<br>0.0085 | 0,24<br>0.0095 | 0,24<br>0.0095 | 0,30<br>0.012 | 0,36<br>0.014 |
| H21 | MM10-10.50-HF-MD08 F15M | 0,22<br>0.0085 | 0,24<br>0.0095 | 0,24<br>0.0095 | 0,30<br>0.012 | 0,36<br>0.014 |

SMG = Seco material group

 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e/DC$  = %

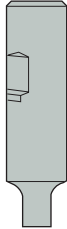
All cutting data are start values

 Universal  
 Steel and cast iron  
 Stainless steel and S-materials  
 Stainless steel and S-materials  
 Non ferrous  
 Hard  
 Graphite  
 X-Heads  
 Minimaster

MM10 High-Feed – Cutting data  $v_c = (m/min)/(sf/min)$ 

|                                 | SMG | F15M |     |     |     | F30M |      |      |      |
|---------------------------------|-----|------|-----|-----|-----|------|------|------|------|
|                                 |     | 100% | 70% | 30% | 20% | 100% | 70%  | 30%  | 20%  |
| Universal                       | P1  | —    | —   | —   | —   | 230  | 280  | 325  | 340  |
|                                 |     | —    | —   | —   | —   | 750  | 920  | 1075 | 1125 |
| Steel and cast iron             | P2  | —    | —   | —   | —   | 225  | 270  | 315  | 330  |
|                                 |     | —    | —   | —   | —   | 740  | 890  | 1025 | 1075 |
|                                 | P3  | —    | —   | —   | —   | 195  | 240  | 275  | 290  |
|                                 |     | —    | —   | —   | —   | 640  | 790  | 900  | 950  |
|                                 | P4  | —    | —   | —   | —   | 170  | 210  | 240  | 255  |
|                                 |     | —    | —   | —   | —   | 560  | 690  | 790  | 840  |
|                                 | P5  | —    | —   | —   | —   | 165  | 200  | 230  | 240  |
|                                 |     | —    | —   | —   | —   | 540  | 660  | 750  | 790  |
|                                 | P6  | —    | —   | —   | —   | 185  | 225  | 260  | 270  |
|                                 |     | —    | —   | —   | —   | 610  | 740  | 850  | 890  |
| Stainless steel and S-materials | P7  | —    | —   | —   | —   | 175  | 215  | 245  | 255  |
|                                 |     | —    | —   | —   | —   | 570  | 710  | 800  | 840  |
|                                 | P8  | —    | —   | —   | —   | 165  | 200  | 230  | 240  |
|                                 |     | —    | —   | —   | —   | 540  | 660  | 750  | 790  |
|                                 | P11 | —    | —   | —   | —   | 170  | 210  | 240  | 250  |
|                                 |     | —    | —   | —   | —   | 560  | 690  | 790  | 820  |
|                                 | P12 | —    | —   | —   | —   | 110  | 135  | 150  | 160  |
|                                 |     | —    | —   | —   | —   | 360  | 445  | 490  | 520  |
| Non ferrous                     | M1  | —    | —   | —   | —   | 180  | 220  | 255  | 265  |
|                                 |     | —    | —   | —   | —   | 590  | 720  | 840  | 870  |
|                                 | M2  | —    | —   | —   | —   | 150  | 180  | 210  | 220  |
|                                 |     | —    | —   | —   | —   | 490  | 590  | 690  | 720  |
|                                 | M3  | —    | —   | —   | —   | 120  | 145  | 165  | 175  |
|                                 |     | —    | —   | —   | —   | 395  | 475  | 540  | 570  |
|                                 | M4  | —    | —   | —   | —   | 95   | 110  | 130  | 135  |
|                                 |     | —    | —   | —   | —   | 310  | 360  | 425  | 445  |
|                                 | M5  | —    | —   | —   | —   | 80   | 95   | 110  | 115  |
|                                 |     | —    | —   | —   | —   | 260  | 310  | 360  | 375  |
| Hard                            | K1  | 190  | 230 | 270 | 280 | 175  | 215  | 250  | 260  |
|                                 |     | 620  | 750 | 890 | 920 | 570  | 710  | 820  | 850  |
|                                 | K2  | 170  | 205 | 235 | 245 | 160  | 190  | 220  | 230  |
|                                 |     | 560  | 670 | 770 | 800 | 520  | 620  | 720  | 750  |
|                                 | K3  | 145  | 175 | 200 | 210 | 135  | 160  | 185  | 195  |
|                                 |     | 475  | 570 | 660 | 690 | 445  | 520  | 610  | 640  |
| Plastic and cfrp                | K4  | 135  | 165 | 190 | 200 | 125  | 155  | 175  | 185  |
|                                 |     | 445  | 540 | 620 | 660 | 410  | 510  | 570  | 610  |
|                                 | K5  | 85   | 100 | 115 | 125 | 75   | 95   | 105  | 115  |
|                                 |     | 280  | 330 | 375 | 410 | 245  | 310  | 345  | 375  |
|                                 | K6  | 120  | 145 | 170 | 175 | 110  | 135  | 155  | 165  |
|                                 |     | 395  | 475 | 560 | 570 | 360  | 445  | 510  | 540  |
|                                 | K7  | 105  | 130 | 150 | 155 | 100  | 120  | 140  | 145  |
|                                 |     | 345  | 425 | 490 | 510 | 330  | 395  | 460  | 475  |
| Graphite                        | N1  | —    | —   | —   | —   | 1325 | 1600 | 1850 | 1925 |
|                                 |     | —    | —   | —   | —   | 4350 | 5250 | 6075 | 6325 |
|                                 | N2  | —    | —   | —   | —   | 530  | 650  | 750  | 780  |
|                                 |     | —    | —   | —   | —   | 1750 | 2125 | 2450 | 2550 |
|                                 | N3  | —    | —   | —   | —   | 355  | 430  | 500  | 520  |
|                                 |     | —    | —   | —   | —   | 1175 | 1400 | 1650 | 1700 |
|                                 | N11 | —    | —   | —   | —   | 405  | 495  | 570  | 590  |
|                                 |     | —    | —   | —   | —   | 1325 | 1625 | 1875 | 1925 |
| X-Heads                         | S1  | —    | —   | —   | —   | 45   | 50   | 60   | 65   |
|                                 |     | —    | —   | —   | —   | 150  | 165  | 195  | 215  |
|                                 | S2  | —    | —   | —   | —   | 36   | 42   | 49   | 50   |
|                                 |     | —    | —   | —   | —   | 120  | 140  | 160  | 165  |
|                                 | S3  | —    | —   | —   | —   | 31   | 37   | 42   | 45   |
|                                 |     | —    | —   | —   | —   | 100  | 120  | 140  | 150  |
|                                 | S11 | —    | —   | —   | —   | 60   | 75   | 85   | 90   |
|                                 |     | —    | —   | —   | —   | 195  | 245  | 280  | 295  |
|                                 | S12 | —    | —   | —   | —   | 43   | 50   | 60   | 60   |
|                                 |     | —    | —   | —   | —   | 140  | 165  | 195  | 195  |
| Minimaster                      | S13 | —    | —   | —   | —   | 25   | 29   | 34   | 36   |
|                                 |     | —    | —   | —   | —   | 80   | 95   | 110  | 120  |
|                                 | H5  | 40   | 48  | 55  | 60  | 37   | 44   | 50   | 55   |
|                                 |     | 130  | 155 | 180 | 195 | 120  | 145  | 165  | 180  |
|                                 | H8  | 42   | 50  | 55  | 60  | 39   | 46   | 55   | 55   |
|                                 |     | 140  | 165 | 180 | 195 | 130  | 150  | 180  | 180  |
|                                 | H11 | 50   | 60  | 70  | 75  | 47   | 55   | 65   | 70   |
|                                 |     | 165  | 195 | 230 | 245 | 155  | 180  | 215  | 230  |
|                                 | H12 | 75   | 90  | 105 | 110 | 70   | 85   | 95   | 100  |
|                                 |     | 245  | 295 | 345 | 360 | 230  | 280  | 310  | 330  |
|                                 | H21 | 42   | 50  | 55  | 60  | 39   | 46   | 55   | 55   |
|                                 |     | 140  | 165 | 180 | 195 | 130  | 150  | 180  | 180  |

## Shank design

| Design 1, Keyway shank                                                              | Design 2, Cylindrical/Weldon back end and 90° front                                  |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|    |   |
| Design 3, Cylindrical/Weldon back end tapered front 87°/89°                         | Design 4, Cylindrical/Weldon back end tapered front 80°/85°/87°                      |
|   |  |
| Design 5, Cylindrical back end double tapered front end 89°/85°                     |                                                                                      |
|  |                                                                                      |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

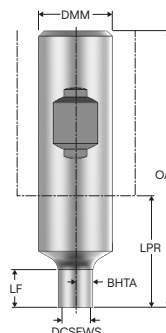
Hard

Graphite

X-Heads

Minimaster

#### MM12 Shank – Metric



| Designation         | Item number | DCSFWS | DMM  | LF   | LPR   | OAL   | BHTA° | Design | CSP | RPMX  | Shank                | Weight | Spare part no. |
|---------------------|-------------|--------|------|------|-------|-------|-------|--------|-----|-------|----------------------|--------|----------------|
|                     |             | mm     | mm   | mm   | mm    | mm    |       |        |     |       |                      | kg     |                |
| MM12-12055.0-0008   | 00083978    | 11,5   | 12,0 | 8,5  | 10,0  | 55,0  | 0,0   | 2      | ■   | 80000 | Cylindrical          | 0,1    | 2              |
| MM12-12070.0-0008DS | 02580668    | 11,5   | 12,0 | 8,5  | 25,0  | 70,0  | 0,0   | 2      | ■   | 63600 | Cylindrical Densimet | 0,1    | 3              |
| MM12-16065.0-0000   | 75004926    | 11,4   | 16,0 | 0,0  | 17,0  | 65,0  | 60,0  | 1      | ■   | 80000 | Cylindrical          | 0,1    | 1              |
| MM12-16170.0-1040   | 75034505    | 11,4   | 16,0 | 40,0 | 122,0 | 170,0 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0,3    | 5              |
| MM12-16170.0-1060   | 75034506    | 11,4   | 16,0 | 60,0 | 122,0 | 170,0 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0,2    | 5              |
| MM12-16170.0-1080   | 75034507    | 11,4   | 16,0 | 80,0 | 122,0 | 170,0 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0,2    | 5              |
| MM12-16095.0-0024DS | 02580690    | 11,4   | 16,0 | 24,0 | 47,0  | 95,0  | 0,0   | 2      | ■   | 63600 | Cylindrical Densimet | 0,3    | 3              |
| MM12-16090.0-3044DS | 02580705    | 11,4   | 16,0 | 43,9 | 42,0  | 90,0  | 3,0   | 4      | ■   | 63600 | Cylindrical Densimet | 0,3    | 3              |
| MM12-16120.0-1045DS | 02580752    | 11,4   | 16,0 | 45,0 | 72,0  | 120,0 | 1,0   | 3      | ■   | 63600 | Cylindrical Densimet | 0,3    | 3              |
| MM12-16115.0-0048DS | 02580691    | 11,4   | 16,0 | 48,0 | 67,0  | 115,0 | 0,0   | 2      | ■   | 63600 | Cylindrical Densimet | 0,3    | 3              |
| MM12-16170.0-1060DS | 02580753    | 11,4   | 16,0 | 60,0 | 122,0 | 170,0 | 1,0   | 3      | ■   | 63600 | Cylindrical Densimet | 0,5    | 3              |
| MM12-16170.0-1080DS | 02580755    | 11,4   | 16,0 | 80,0 | 122,0 | 170,0 | 1,0   | 3      | ■   | 63600 | Cylindrical Densimet | 0,5    | 3              |
| MM12-20080.3-0012   | 75012864    | 11,4   | 20,0 | 12,0 | 30,0  | 80,0  | 0,0   | 2      | ■   | 80000 | Weldon               | 0,2    | 4              |
| MM12-20095.3-3027   | 75012865    | 11,4   | 20,0 | 27,0 | 45,0  | 95,0  | 3,0   | 3      | ■   | 80000 | Weldon               | 0,2    | 4              |
| MM12-20150.3-5049   | 75012866    | 11,4   | 20,0 | 49,1 | 100,0 | 150,0 | 5,0   | 4      | ■   | 80000 | Weldon               | 0,3    | 5              |
| MM12-20250.0-1060DS | 02580756    | 11,4   | 20,0 | 60,0 | 200,0 | 250,0 | 1,0   | 5      | ■   | 63600 | Cylindrical Densimet | 1,0    | 3              |

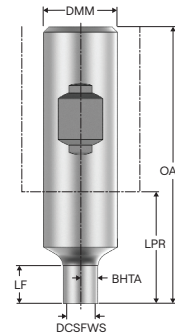
#### Spare Parts, included in delivery

#### Accessories

| For cutter | Sleeve                                                                              | Tension screw                                                                       | Sleeve key                                                                            |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|            |  |  |  |
| 1          | MM-06032                                                                            | MM12-0637                                                                           | H06-4                                                                                 |
| 2          | MM-06020                                                                            | MM12-0637                                                                           | H05-4                                                                                 |
| 3          | –                                                                                   | MM12-061037                                                                         | –                                                                                     |
| 4          | MM-06048                                                                            | MM12-0637                                                                           | H06-4                                                                                 |
| 5          | MM-06116                                                                            | MM12-0637                                                                           | H06-4                                                                                 |

Allen key H05-4 for sleeve to be ordered separately.  
For wrench types, see insert pages

## MM12 Shank – Inch



| Designation             | Item number | DCSFWS | DMM   | LF    | LPR   | OAL   | BHTA° | Design | CSP | RPMX  | Shank                | Weight | Spare part no. |
|-------------------------|-------------|--------|-------|-------|-------|-------|-------|--------|-----|-------|----------------------|--------|----------------|
|                         |             | inch   | inch  | inch  | inch  | inch  |       |        |     |       |                      | lbs    |                |
| MM12-0.50-2.2-0-0003    | 00096133    | 0.453  | 0.500 | 0.335 | 0.394 | 2.165 | 0,0   | 2      | ■   | 80000 | Cylindrical          | 0.220  | 2              |
| MM12-0.62-2.6-0-0000    | 75005070    | 0.449  | 0.625 | 0     | 0.669 | 2.559 | 60,0  | 1      | ■   | 80000 | Cylindrical          | 0.220  | 1              |
| MM12-0.62-6.7-0-1015    | 75054728    | 0.449  | 0.625 | 1.575 | 4.803 | 6.693 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0.440  | 5              |
| MM12-0.62-6.7-0-1023    | 75054729    | 0.449  | 0.625 | 2.362 | 4.803 | 6.693 | 1,0   | 3      | ■   | 80000 | Cylindrical          | 0.440  | 5              |
| MM12-0.62-6.7-0-1023DS  | 02593423    | 0.449  | 0.625 | 2.362 | 4.803 | 6.693 | 1,0   | 3      | ■   | 63600 | Cylindrical Densimet | 1.100  | 4              |
| MM12-0.62-6.7-0-1031DS  | 02593426    | 0.449  | 0.625 | 3.150 | 4.803 | 6.693 | 1,0   | 3      | ■   | 63600 | Cylindrical Densimet | 1.100  | 4              |
| MM12-0.75-3.1-3-0004    | 75015055    | 0.449  | 0.750 | 0.472 | 1.181 | 3.150 | 0,0   | 2      | ■   | 80000 | Weldon               | 0.440  | 3              |
| MM12-0.75-3.7-3-3010    | 75015056    | 0.449  | 0.750 | 1.063 | 1.772 | 3.740 | 3,0   | 3      | ■   | 80000 | Weldon               | 0.440  | 3              |
| MM12-0.75-5.9-3-5017    | 75015057    | 0.449  | 0.750 | 1.720 | 3.937 | 5.906 | 5,0   | 4      | ■   | 80000 | Weldon               | 0.660  | 5              |
| MM12-0.75-10.0-0-1023DS | 02593427    | 0.449  | 0.750 | 2.362 | 7.874 | 9.843 | 1,0   | 5      | ■   | 63600 | Cylindrical Densimet | 1.980  | 4              |
| MM12-0.75-3.8-0-0009DS  | 02593428    | 0.449  | 0.750 | 0.945 | 1.772 | 3.740 | 0,0   | 2      | ■   | 63600 | Cylindrical Densimet | 0.880  | 4              |
| MM12-0.75-4.5-0-0018DS  | 02593430    | 0.449  | 0.750 | 1.890 | 2.559 | 4.528 | 0,0   | 2      | ■   | 63600 | Cylindrical Densimet | 0.880  | 4              |

## Spare Parts, included in delivery

## Accessories

| For cutter | Sleeve                                                                              | Tension screw                                                                       | Sleeve key                                                                            |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|            |  |  |  |
| 1          | MM-06032                                                                            | MM12-0637                                                                           | H06-4                                                                                 |
| 2          | MM-06020                                                                            | MM12-0637                                                                           | H05-4                                                                                 |
| 3          | MM-06048                                                                            | MM12-0637                                                                           | H06-4                                                                                 |
| 4          | -                                                                                   | MM12-061037                                                                         | -                                                                                     |
| 5          | MM-06116                                                                            | MM12-0637                                                                           | H06-4                                                                                 |

Allen key H05-4 for sleeve to be ordered separately.  
For wrench types, see insert pages

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

Hard

Graphite

X-Heads

Minimaster

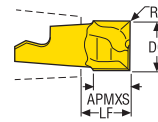
#### Slot milling/square shoulder milling



—For Torque keys and torque values, see page 799

| Designation           | DC            | APMXS          | RE           | LF            | RMPX° | C min | C max | FHA° | ZEFP | Wrench |  | Grades |      |      |      |
|-----------------------|---------------|----------------|--------------|---------------|-------|-------|-------|------|------|--------|-------------------------------------------------------------------------------------|--------|------|------|------|
|                       |               |                |              |               |       |       |       |      |      |        |                                                                                     | Coated |      |      |      |
|                       |               |                |              |               |       |       |       |      |      |        |                                                                                     | T60M   | F15M | F30M | F40M |
| mm<br>Inch            | mm<br>Inch    | mm<br>Inch     | mm<br>Inch   | mm<br>Inch    |       |       |       |      |      |        |                                                                                     |        |      |      |      |
| MM12-11715-R03A30-M04 | 11,7<br>0.461 | 15,35<br>0.604 | 0,3<br>0.012 | 19,9<br>0.783 | 15,0  | 14,2  | 22,6  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM12-12015-A30-E04    | 12,0<br>0.472 | 15,35<br>0.604 | —            | 19,9<br>0.783 | 15,0  | 14,6  | 23,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM12-12015-R05A30-M04 | 12,0<br>0.472 | 15,35<br>0.604 | 0,5<br>0.020 | 19,9<br>0.783 | 15,0  | 14,6  | 22,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM12-12015-R10A30-E04 | 12,0<br>0.472 | 15,35<br>0.604 | 1,0<br>0.039 | 19,9<br>0.783 | 15,0  | 14,6  | 21,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM12-12015-R10A30-M04 | 12,0<br>0.472 | 15,35<br>0.604 | 1,0<br>0.039 | 19,9<br>0.783 | 15,0  | 14,6  | 21,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM12-12015-R15A30-D04 | 12,0<br>0.472 | 15,35<br>0.604 | 1,5<br>0.059 | 19,9<br>0.783 | 15,0  | 14,6  | 20,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM12-12015-R20A30-M04 | 12,0<br>0.472 | 15,35<br>0.604 | 2,0<br>0.079 | 19,9<br>0.783 | 15,0  | 14,6  | 19,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM12-12015-R30A30-E04 | 12,0<br>0.472 | 15,3<br>0.602  | 3,0<br>0.118 | 19,9<br>0.783 | 15,0  | 14,6  | 17,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM12-12015-R30A30-M04 | 12,0<br>0.472 | 15,35<br>0.604 | 3,0<br>0.118 | 19,9<br>0.783 | 15,0  | 14,6  | 17,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM12-12015-R40A30-M04 | 12,0<br>0.472 | 15,35<br>0.604 | 4,0<br>0.157 | 19,9<br>0.783 | 15,0  | 14,6  | 15,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM12-12715-A30-E04    | 12,7<br>0.500 | 15,35<br>0.604 | —            | 19,9<br>0.783 | 15,0  | 15,4  | 25,2  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM12-12715-R08A30-M04 | 12,7<br>0.500 | 15,35<br>0.604 | 0,8<br>0.031 | 19,9<br>0.783 | 15,0  | 15,4  | 23,6  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM12-12715-R16A30-M04 | 12,7<br>0.500 | 15,35<br>0.604 | 1,6<br>0.063 | 19,9<br>0.783 | 15,0  | 15,4  | 22,0  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |

#### Slot milling/square shoulder milling



—For Torque keys and torque values, see page 799

| Designation          | DC            | APMXS        | RE           | LF             | RMPX° | C min | C max | FHA° | ZEFP | Wrench | Grades |      |      |      |
|----------------------|---------------|--------------|--------------|----------------|-------|-------|-------|------|------|--------|--------|------|------|------|
|                      |               |              |              |                |       |       |       |      |      |        | Coated |      |      |      |
|                      | mm<br>Inch    | mm<br>Inch   | mm<br>Inch   | mm<br>Inch     |       |       |       |      |      |        | T60M   | F15M | F30M | F40M |
| MM12-11708T-R03-D05  | 11,7<br>0.461 | 8,2<br>0.323 | 0,3<br>0.012 | 10,18<br>0.401 | 15,0  | 14,2  | 22,6  | 0    | 2    | MM0612 | ■      |      |      |      |
| MM12-12008-M04       | 12,0<br>0.472 | 8,2<br>0.323 | —            | 10,2<br>0.402  | 15,0  | 14,6  | 23,8  | 0    | 2    | MM0612 | ■      |      |      |      |
| MM12-12008-R08A8-E04 | 12,0<br>0.472 | 8,1<br>0.319 | 0,8<br>0.031 | 10,15<br>0.400 | 15,0  | 14,6  | 22,2  | 8    | 2    | MM0612 | ■      |      |      |      |
| MM12-12008-R08-MD05  | 12,0<br>0.472 | 8,2<br>0.323 | 0,8<br>0.031 | 10,18<br>0.401 | 15,0  | 14,6  | 22,2  | 0    | 2    | MM0612 | ■      |      | ■    |      |
| MM12-12008-R08P-M04  | 12,0<br>0.472 | 8,1<br>0.319 | 0,8<br>0.031 | 10,05<br>0.396 | 15,0  | 14,6  | 22,2  | 0    | 2    | MM0612 |        |      | ■    |      |
| MM12-12008-R20-MD05  | 12,0<br>0.472 | 8,2<br>0.323 | 2,0<br>0.079 | 10,16<br>0.400 | 15,0  | 14,6  | 19,8  | 0    | 2    | MM0612 |        |      | ■    |      |
| MM12-12008-R30-MD05  | 12,0<br>0.472 | 8,2<br>0.323 | 3,0<br>0.118 | 10,14<br>0.399 | 15,0  | 14,6  | 17,8  | 0    | 2    | MM0612 |        |      | ■    |      |
| MM12-12708-M04       | 12,7<br>0.500 | 9,3<br>0.366 | —            | 11,25<br>0.443 | 15,0  | 15,4  | 25,2  | 0    | 2    | MM1420 | ■      |      |      |      |
| MM12-12708-R08-MD05  | 12,7<br>0.500 | 9,3<br>0.366 | 0,8<br>0.031 | 11,23<br>0.442 | 15,0  | 15,4  | 23,6  | 0    | 2    | MM1420 | ■      |      |      |      |
| MM12-12708-R08P-M04  | 12,7<br>0.500 | 9,3<br>0.366 | 0,8<br>0.031 | 11,23<br>0.442 | 15,0  | 15,4  | 23,6  | 0    | 2    | MM1420 |        |      | ■    |      |
| MM12-13709T-R03-D05  | 13,7<br>0.539 | 9,3<br>0.366 | 0,3<br>0.012 | 11,25<br>0.443 | 15,0  | 16,6  | 26,6  | 0    | 2    | MM1420 | ■      |      |      |      |
| MM12-14009-M04       | 14,0<br>0.551 | 9,3<br>0.366 | —            | 11,26<br>0.443 | 15,0  | 17,0  | 27,8  | 0    | 2    | MM1420 | ■      |      |      |      |
| MM12-14009-R08A8-E04 | 14,0<br>0.551 | 9,2<br>0.362 | 0,8<br>0.031 | 11,06<br>0.435 | 15,0  | 17,0  | 26,2  | 8    | 2    | MM1420 | ■      |      | ■    |      |
| MM12-14009-R08-MD05  | 14,0<br>0.551 | 9,3<br>0.366 | 0,8<br>0.031 | 11,26<br>0.443 | 15,0  | 17,0  | 26,2  | 0    | 2    | MM1420 | ■      |      | ■    |      |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

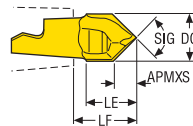
Hard

Graphite

X-Heads

Minimaster

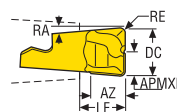
#### Centre drilling



—For Torque keys and torque values, see page 799

| Designation        | DC            | APMXS         | RE         | LF             | SIG° | ZEFP | Wrench | Grades |      |      |      |
|--------------------|---------------|---------------|------------|----------------|------|------|--------|--------|------|------|------|
|                    |               |               |            |                |      |      |        | Coated |      |      |      |
|                    | mm<br>Inch    | mm<br>Inch    | mm<br>Inch | mm<br>Inch     |      |      |        | T60M   | F15M | F30M | F40M |
| MM12-12006-C90-M04 | 12,0<br>0.472 | 5,65<br>0.222 | —<br>—     | 14,64<br>0.576 | 90,0 | 2    | MM0612 | ■      |      |      |      |

#### Plunge milling

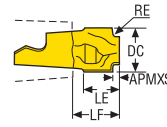


—For Torque keys and torque values, see page 799

| Designation            | DC            | APMXE        | RE           | AZ           | LF            | RA° | ZEFP | Wrench | Grades |      |      |      |
|------------------------|---------------|--------------|--------------|--------------|---------------|-----|------|--------|--------|------|------|------|
|                        |               |              |              |              |               |     |      |        | Coated |      |      |      |
|                        | mm<br>Inch    | mm<br>Inch   | mm<br>Inch   | mm<br>Inch   | mm<br>Inch    |     |      |        | T60M   | F15M | F30M | F40M |
| MM12-12008-R10-PL-MD05 | 12,0<br>0.472 | 6,0<br>0.236 | 1,0<br>0.039 | 8,5<br>0.335 | 10,2<br>0.402 | 5,0 | 2    | MM0612 |        |      | ■    |      |



## Concave radius



—For Torque keys and torque values, see page 799

| Designation          |               |              |              |               |                |      | Grades |   |        |      |      |      |
|----------------------|---------------|--------------|--------------|---------------|----------------|------|--------|---|--------|------|------|------|
|                      | DC            | APMXS        | RE           | LE            | LF             | ZEFP | Wrench |   | Coated |      |      |      |
|                      | mm<br>Inch    | mm<br>Inch   | mm<br>Inch   | mm<br>Inch    | mm<br>Inch     |      |        |   | T60M   | F15M | F30M | F40M |
| MM12-12010-CR10-MD05 | 12,0<br>0.472 | 2,2<br>0.087 | 1,0<br>0.039 | 10,6<br>0.417 | 12,14<br>0.478 | 2    | MM0612 | ■ |        |      |      |      |
| MM12-12010-CR20-MD05 | 12,0<br>0.472 | 2,4<br>0.094 | 2,0<br>0.079 | 10,7<br>0.421 | 12,25<br>0.482 | 2    | MM0612 | ■ |        |      |      |      |
| MM12-12010-CR30-MD05 | 12,0<br>0.472 | 3,3<br>0.130 | 3,0<br>0.118 | 10,6<br>0.417 | 12,2<br>0.480  | 2    | MM0612 | ■ |        |      |      |      |

## Double chamfering



—For Torque keys and torque values, see page 799

|                       |               |              |              |               |               |        |      |      |        |        | Grades |      |      |  |
|-----------------------|---------------|--------------|--------------|---------------|---------------|--------|------|------|--------|--------|--------|------|------|--|
| Designation           | DCX           | DC           | APMXS        | DN            | LF            | KAPRS° | BEC° | ZEFP | Wrench | Coated |        |      |      |  |
|                       | mm<br>Inch    | mm<br>Inch   | mm<br>Inch   | mm<br>Inch    | mm<br>Inch    |        |      |      |        | T60M   | F15M   | F30M | F40M |  |
| MM12-16016-D3020P-M02 | 16,0<br>0.630 | 1,0<br>0.039 | 4,3<br>0.169 | 11,5<br>0.453 | 15,2<br>0.598 | 30,0   | 60,0 | 2    | MM1420 |        | ■      |      |      |  |
| MM12-16016-D4520P-M02 | 16,0<br>0.630 | 1,0<br>0.039 | 7,5<br>0.295 | 11,5<br>0.453 | 17,2<br>0.677 | 45,0   | 90,0 | 2    | MM1420 |        | ■      |      |      |  |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

Hard

Graphite

X-Heads

Minimaster

Precision inserts for semi-finishing in all materials



—For Torque keys and torque values, see page 799

| Designation           | DC            | APMXS        | RE           | LE            | DN            | LF             | SA°   | ZEFP | Wrench | Grades |      |      |      |
|-----------------------|---------------|--------------|--------------|---------------|---------------|----------------|-------|------|--------|--------|------|------|------|
|                       |               |              |              |               |               |                |       |      |        | Coated |      |      |      |
|                       |               |              |              |               |               |                |       |      |        | T60M   | F15M | F30M | F40M |
| MM12-14014-B120P-M05  | 14,0<br>0.551 | 7,0<br>0.276 | 7,0<br>0.276 | 14,0<br>0.551 | 12,0<br>0.472 | 15,45<br>0.608 | 242,0 | 2    | MM1420 |        |      | ■    |      |
| MM12-16016-B120PF-M03 | 16,0<br>0.630 | 8,0<br>0.315 | 8,0<br>0.315 | 16,0<br>0.630 | 12,0<br>0.472 | 17,46<br>0.687 | 263,0 | 2    | MM1420 |        | ■    |      |      |
| MM12-16016-B120P-M07  | 16,0<br>0.630 | 8,0<br>0.315 | 8,0<br>0.315 | 16,0<br>0.630 | 12,0<br>0.472 | 17,46<br>0.687 | 263,0 | 2    | MM1420 |        |      | ■    |      |

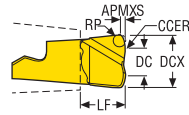
Copy milling



—For Torque keys and torque values, see page 799

| Designation           | DC            | APMXS         | RE            | LF             | FHA° | ZEFP | Wrench |  | Grades |      |      |      |
|-----------------------|---------------|---------------|---------------|----------------|------|------|--------|--------------------------------------------------------------------------------------|--------|------|------|------|
|                       |               |               |               |                |      |      |        |                                                                                      | Coated |      |      |      |
|                       |               |               |               |                |      |      |        |                                                                                      | T60M   | F15M | F30M | F40M |
| MM12-12012-B90-MD05   | 12,0<br>0.472 | 12,2<br>0.480 | 6,0<br>0.236  | 14,12<br>0.556 |      | 2    | MM0612 |                                                                                      | ■      |      | ■    |      |
| MM12-12012-B90PF-M02  | 12,0<br>0.472 | 10,4<br>0.409 | 6,0<br>0.236  | 14,09<br>0.555 |      | 2    | MM0612 |                                                                                      |        | ■    |      |      |
| MM12-12012-B90P-M05   | 12,0<br>0.472 | 10,4<br>0.409 | 6,0<br>0.236  | 14,09<br>0.555 |      | 2    | MM0612 |                                                                                      |        |      | ■    |      |
| MM12-12012-B90S-E05   | 12,0<br>0.472 | 12,3<br>0.484 | 6,0<br>0.236  | 14,12<br>0.556 |      | 2    | MM0612 |                                                                                      |        |      | ■    |      |
| MM12-12015-B90A30-E04 | 12,0<br>0.472 | 15,3<br>0.602 | 6,0<br>0.236  | 19,9<br>0.783  | 30,0 | 3    | MM0416 | ✓                                                                                    |        |      | ■    |      |
| MM12-12015-B90A30-M04 | 12,0<br>0.472 | 15,3<br>0.602 | 6,0<br>0.236  | 19,9<br>0.783  | 30,0 | 3    | MM0416 | ✓                                                                                    |        |      |      | ■    |
| MM12-12713-B90P-M05   | 12,7<br>0.500 | 12,2<br>0.480 | 6,35<br>0.250 | 15,92<br>0.627 |      | 2    | MM1420 |                                                                                      | ■      |      | ■    |      |
| MM12-12715-B90A30-M04 | 12,7<br>0.500 | 15,3<br>0.602 | 6,35<br>0.250 | 19,75<br>0.778 | 30,0 | 3    | MM0416 | ✓                                                                                    |        |      |      | ■    |
| MM12-14014-B90S-E05   | 14,0<br>0.551 | 14,1<br>0.555 | 7,0<br>0.276  | 15,92<br>0.627 |      | 2    | MM1420 |                                                                                      |        |      | ■    |      |

High feed



—For Torque keys and torque values, see page 799

| Designation        | DCX           | DC           | APMXS         | RP            | CCER         | LF             | RMPX° | C min | C max | ZEFP | Wrench | Grades |      |      |      |
|--------------------|---------------|--------------|---------------|---------------|--------------|----------------|-------|-------|-------|------|--------|--------|------|------|------|
|                    |               |              |               |               |              |                |       |       |       |      |        | Coated |      |      |      |
|                    | mm<br>Inch    | mm<br>Inch   | mm<br>Inch    | mm<br>Inch    | mm<br>Inch   | mm<br>Inch     |       |       |       |      |        | T60M   | F15M | F30M | F40M |
| MM12-12.60-HF-MD10 | 12,0<br>0.472 | 6,0<br>0.236 | 0,51<br>0.020 | 1,21<br>0.048 | 6,5<br>0.256 | 10,25<br>0.404 | 5,0   | 14,6  | 22,2  | 2    | MM0612 |        | ■    | ■    |      |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

Hard

Graphite

X-Heads

Minimaster

### MM12 – Slot and Side milling – Insert selection – mm/Inch

|                                 | SMG |                            | $a_p$        | $f_z$           |                 |                 |                 |
|---------------------------------|-----|----------------------------|--------------|-----------------|-----------------|-----------------|-----------------|
|                                 |     |                            |              | 100%            | 40%             | 20%             | 10%             |
| Universal                       | P1  | MM12-12015-R05A30-M04 F40M | 2,5<br>0,10  | 0,055<br>0,0022 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,095<br>0,0038 |
|                                 | P2  | MM12-12015-R05A30-M04 F40M | 2,5<br>0,10  | 0,060<br>0,0024 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,095<br>0,0038 |
| Steel and cast iron             | P3  | MM12-12015-R05A30-M04 F40M | 2,5<br>0,10  | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,090<br>0,0036 |
|                                 | P4  | MM12-12015-R05A30-M04 F40M | 2,5<br>0,10  | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 |
|                                 | P5  | MM12-12015-R05A30-M04 F40M | 2,5<br>0,10  | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,085<br>0,0034 |
|                                 | P6  | MM12-12015-R05A30-M04 F40M | 2,5<br>0,10  | 0,050<br>0,0020 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,085<br>0,0034 |
|                                 | P7  | MM12-12015-R05A30-M04 F40M | 2,5<br>0,10  | 0,050<br>0,0020 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,085<br>0,0034 |
|                                 | P8  | MM12-12015-R05A30-M04 F40M | 2,5<br>0,10  | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,070<br>0,0028 | 0,090<br>0,0036 |
| Stainless steel and S-materials | P11 | MM12-12015-R05A30-M04 F40M | 2,5<br>0,10  | 0,050<br>0,0020 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,085<br>0,0034 |
|                                 | P12 | MM12-12015-R05A30-M04 F40M | 2,0<br>0,080 | 0,036<br>0,0014 | 0,036<br>0,0014 | 0,044<br>0,0017 | 0,060<br>0,0024 |
|                                 | M1  | MM12-12015-R05A30-M04 F40M | 2,5<br>0,10  | 0,060<br>0,0024 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,095<br>0,0038 |
|                                 | M2  | MM12-12015-R05A30-M04 F40M | 2,5<br>0,10  | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,085<br>0,0034 |
| Non ferrous                     | M3  | MM12-12015-R05A30-M04 F40M | 2,0<br>0,080 | 0,042<br>0,0017 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,070<br>0,0028 |
|                                 | M4  | MM12-12015-R05A30-M04 F40M | 1,6<br>0,065 | 0,038<br>0,0015 | 0,038<br>0,0015 | 0,046<br>0,0018 | 0,060<br>0,0024 |
|                                 | M5  | MM12-12015-R05A30-M04 F40M | 1,6<br>0,065 | 0,038<br>0,0015 | 0,038<br>0,0015 | 0,046<br>0,0018 | 0,060<br>0,0024 |
|                                 | K1  | MM12-12015-R10A30-E04 F30M | 2,5<br>0,10  | 0,060<br>0,0024 | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,095<br>0,0038 |
|                                 | K2  | MM12-12015-R10A30-E04 F30M | 2,5<br>0,10  | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 |
| Hard                            | K3  | MM12-12015-R10A30-E04 F30M | 2,5<br>0,10  | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 |
|                                 | K4  | MM12-12015-R10A30-E04 F30M | 2,5<br>0,10  | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,065<br>0,0026 | 0,090<br>0,0036 |
|                                 | K5  | MM12-12015-R15A30-D04 F30M | 2,5<br>0,10  | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,060<br>0,0024 | 0,080<br>0,0032 |
|                                 | K6  | MM12-12015-R15A30-D04 F30M | 2,5<br>0,10  | 0,060<br>0,0024 | 0,060<br>0,0024 | 0,065<br>0,0026 | 0,090<br>0,0036 |
| Plastic and cfrp                | K7  | MM12-12015-R15A30-D04 F30M | 2,5<br>0,10  | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,060<br>0,0024 | 0,080<br>0,0032 |
|                                 | N1  | MM12-12015-R10A30-E04 F30M | 2,5<br>0,10  | 0,080<br>0,0032 | 0,080<br>0,0032 | 0,090<br>0,0036 | 0,12<br>0,0048  |
|                                 | N2  | MM12-12015-R10A30-E04 F30M | 2,5<br>0,10  | 0,080<br>0,0032 | 0,080<br>0,0032 | 0,090<br>0,0036 | 0,12<br>0,0048  |
|                                 | N3  | MM12-12015-R10A30-E04 F30M | 2,5<br>0,10  | 0,080<br>0,0032 | 0,080<br>0,0032 | 0,090<br>0,0036 | 0,12<br>0,0048  |
| Graphite                        | N11 | MM12-12015-R10A30-E04 F30M | 2,5<br>0,10  | 0,080<br>0,0032 | 0,080<br>0,0032 | 0,090<br>0,0036 | 0,12<br>0,0048  |
|                                 | S1  | MM12-12015-R15A30-D04 F30M | 1,6<br>0,065 | 0,050<br>0,0020 | 0,048<br>0,0019 | 0,048<br>0,0019 | 0,060<br>0,0026 |
|                                 | S2  | MM12-12015-R15A30-D04 F30M | 1,6<br>0,065 | 0,050<br>0,0020 | 0,048<br>0,0019 | 0,048<br>0,0019 | 0,060<br>0,0026 |
|                                 | S3  | MM12-12015-R15A30-D04 F30M | 1,6<br>0,065 | 0,046<br>0,0018 | 0,044<br>0,0017 | 0,044<br>0,0017 | 0,055<br>0,0024 |
| X-Heads                         | S11 | MM12-12015-R05A30-M04 F40M | 1,9<br>0,075 | 0,044<br>0,0017 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,070<br>0,0028 |
|                                 | S12 | MM12-12015-R05A30-M04 F40M | 1,9<br>0,075 | 0,044<br>0,0017 | 0,044<br>0,0017 | 0,050<br>0,0020 | 0,070<br>0,0028 |
|                                 | S13 | MM12-12015-R05A30-M04 F40M | 1,6<br>0,065 | 0,038<br>0,0015 | 0,038<br>0,0015 | 0,046<br>0,0018 | 0,060<br>0,0024 |
|                                 | H5  | MM12-12015-R15A30-D04 F30M | 2,0<br>0,080 | 0,044<br>0,0017 | 0,042<br>0,0017 | 0,046<br>0,0018 | 0,060<br>0,0024 |
|                                 | H8  | MM12-12015-R15A30-D04 F30M | 1,9<br>0,075 | 0,034<br>0,0013 | 0,034<br>0,0013 | 0,036<br>0,0014 | 0,046<br>0,0018 |
|                                 | H11 | MM12-12015-R15A30-D04 F30M | 2,0<br>0,080 | 0,044<br>0,0017 | 0,042<br>0,0017 | 0,046<br>0,0018 | 0,060<br>0,0024 |
| Minimaster                      | H12 | MM12-12015-R15A30-D04 F30M | 1,9<br>0,075 | 0,034<br>0,0013 | 0,034<br>0,0013 | 0,036<br>0,0014 | 0,046<br>0,0018 |
|                                 | H21 | MM12-12015-R15A30-D04 F30M | 1,9<br>0,075 | 0,034<br>0,0013 | 0,034<br>0,0013 | 0,036<br>0,0014 | 0,046<br>0,0018 |

SMG = Seco material group  
 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %  
 All cutting data are start values

### MM12 – Slot and Side milling – Cutting data $v_c = (m/min)/(sf/min)$

| SMG | F30M |      |      |      | F40M |      |      |      | T60M |      |      |      |                                 |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|---------------------------------|
|     | 100% | 40%  | 20%  | 10%  | 100% | 40%  | 20%  | 10%  | 100% | 40%  | 20%  | 10%  |                                 |
| P1  | 250  | 315  | 350  | 385  | 240  | 300  | 335  | 365  | 185  | 225  | 255  | 280  | Universal                       |
|     | 820  | 1025 | 1150 | 1275 | 790  | 980  | 1100 | 1200 | 610  | 740  | 840  | 920  |                                 |
| P2  | 245  | 305  | 340  | 375  | 235  | 290  | 325  | 355  | 175  | 220  | 250  | 275  | Steel and cast iron             |
|     | 800  | 1000 | 1125 | 1225 | 770  | 950  | 1075 | 1175 | 570  | 720  | 820  | 900  |                                 |
| P3  | 210  | 265  | 295  | 325  | 200  | 250  | 280  | 310  | 155  | 195  | 215  | 235  | Steel and cast iron             |
|     | 690  | 870  | 970  | 1075 | 660  | 820  | 920  | 1025 | 510  | 640  | 710  | 770  |                                 |
| P4  | 190  | 235  | 260  | 285  | 180  | 225  | 250  | 270  | 135  | 170  | 190  | 210  | Steel and cast iron             |
|     | 620  | 770  | 850  | 940  | 590  | 740  | 820  | 890  | 445  | 560  | 620  | 690  |                                 |
| P5  | 180  | 225  | 250  | 275  | 170  | 215  | 240  | 260  | 130  | 160  | 180  | 200  | Steel and cast iron             |
|     | 590  | 740  | 820  | 900  | 560  | 710  | 790  | 850  | 425  | 520  | 590  | 660  |                                 |
| P6  | 205  | 250  | 280  | 310  | 195  | 240  | 270  | 295  | 150  | 185  | 205  | 225  | Steel and cast iron             |
|     | 670  | 820  | 920  | 1025 | 640  | 790  | 890  | 970  | 490  | 610  | 670  | 740  |                                 |
| P7  | 190  | 240  | 265  | 295  | 180  | 225  | 255  | 280  | 140  | 175  | 195  | 215  | Stainless steel and S-materials |
|     | 620  | 790  | 870  | 970  | 590  | 740  | 840  | 920  | 460  | 570  | 640  | 710  |                                 |
| P8  | 175  | 220  | 245  | 275  | 170  | 210  | 235  | 260  | 130  | 160  | 180  | 200  | Stainless steel and S-materials |
|     | 570  | 720  | 800  | 900  | 560  | 690  | 770  | 850  | 425  | 520  | 590  | 660  |                                 |
| P11 | 185  | 230  | 260  | 285  | 175  | 220  | 245  | 270  | 135  | 170  | 190  | 210  | Stainless steel and S-materials |
|     | 610  | 750  | 850  | 940  | 570  | 720  | 800  | 890  | 445  | 560  | 620  | 690  |                                 |
| P12 | 115  | 145  | 165  | 180  | 110  | 140  | 155  | 170  | 85   | 110  | 120  | 130  | Stainless steel and S-materials |
|     | 375  | 475  | 540  | 590  | 360  | 460  | 510  | 560  | 280  | 360  | 395  | 425  |                                 |
| M1  | 200  | 245  | 275  | 300  | 190  | 235  | 260  | 285  | 140  | 180  | 200  | 220  | Stainless steel and S-materials |
|     | 660  | 800  | 900  | 980  | 620  | 770  | 850  | 940  | 460  | 590  | 660  | 720  |                                 |
| M2  | 160  | 200  | 225  | 245  | 155  | 195  | 215  | 235  | 120  | 145  | 165  | 180  | Stainless steel and S-materials |
|     | 520  | 660  | 740  | 800  | 510  | 640  | 710  | 770  | 395  | 475  | 540  | 590  |                                 |
| M3  | 130  | 160  | 175  | 195  | 125  | 150  | 170  | 185  | 95   | 120  | 135  | 145  | Stainless steel and S-materials |
|     | 425  | 520  | 570  | 640  | 410  | 490  | 560  | 610  | 310  | 395  | 445  | 475  |                                 |
| M4  | 100  | 125  | 140  | 150  | 95   | 115  | 130  | 145  | 75   | 90   | 100  | 110  | Stainless steel and S-materials |
|     | 330  | 410  | 460  | 490  | 310  | 375  | 425  | 475  | 245  | 295  | 330  | 360  |                                 |
| M5  | 80   | 100  | 115  | 125  | 80   | 95   | 110  | 120  | 60   | 75   | 85   | 95   | Non ferrous                     |
|     | 260  | 330  | 375  | 410  | 260  | 310  | 360  | 395  | 195  | 245  | 280  | 310  |                                 |
| K1  | 195  | 240  | 270  | 295  | 185  | 230  | 255  | 280  | 140  | 175  | 195  | 220  | Non ferrous                     |
|     | 640  | 790  | 890  | 970  | 610  | 750  | 840  | 920  | 460  | 570  | 640  | 720  |                                 |
| K2  | 170  | 215  | 240  | 260  | 165  | 205  | 225  | 245  | 125  | 155  | 175  | 190  | Non ferrous                     |
|     | 560  | 710  | 790  | 850  | 540  | 670  | 740  | 800  | 410  | 510  | 570  | 620  |                                 |
| K3  | 145  | 180  | 200  | 220  | 140  | 170  | 190  | 210  | 105  | 130  | 145  | 160  | Non ferrous                     |
|     | 475  | 590  | 660  | 720  | 460  | 560  | 620  | 690  | 345  | 425  | 475  | 520  |                                 |
| K4  | 140  | 170  | 190  | 210  | 130  | 165  | 185  | 200  | 100  | 125  | 140  | 155  | Hard                            |
|     | 460  | 560  | 620  | 690  | 425  | 540  | 610  | 660  | 330  | 410  | 460  | 510  |                                 |
| K5  | 85   | 105  | 115  | 125  | 80   | 100  | 110  | 120  | 60   | 75   | 85   | 95   | Hard                            |
|     | 280  | 345  | 375  | 410  | 260  | 330  | 360  | 395  | 195  | 245  | 280  | 310  |                                 |
| K6  | 120  | 150  | 170  | 185  | 115  | 145  | 160  | 175  | 90   | 110  | 125  | 135  | Hard                            |
|     | 395  | 490  | 560  | 610  | 375  | 475  | 520  | 570  | 295  | 360  | 410  | 445  |                                 |
| K7  | 105  | 135  | 150  | 165  | 100  | 125  | 140  | 155  | 80   | 100  | 110  | 120  | Hard                            |
|     | 345  | 445  | 490  | 540  | 330  | 410  | 460  | 510  | 260  | 330  | 360  | 395  |                                 |
| N1  | 1450 | 1800 | 2025 | 2225 | 1375 | 1725 | 1925 | 2125 | 1050 | 1300 | 1450 | 1600 | Graphite                        |
|     | 4750 | 5900 | 6650 | 7300 | 4500 | 5650 | 6325 | 6975 | 3450 | 4275 | 4750 | 5250 |                                 |
| N2  | 580  | 730  | 820  | 900  | 560  | 690  | 780  | 860  | 420  | 530  | 590  | 650  | Graphite                        |
|     | 1900 | 2400 | 2700 | 2950 | 1825 | 2275 | 2550 | 2825 | 1375 | 1750 | 1925 | 2125 |                                 |
| N3  | 390  | 485  | 550  | 600  | 370  | 460  | 520  | 570  | 280  | 350  | 395  | 435  | Graphite                        |
|     | 1275 | 1600 | 1800 | 1975 | 1225 | 1500 | 1700 | 1875 | 920  | 1150 | 1300 | 1425 |                                 |
| N11 | 445  | 550  | 620  | 690  | 425  | 530  | 590  | 650  | 320  | 405  | 450  | 495  | Graphite                        |
|     | 1450 | 1800 | 2025 | 2275 | 1400 | 1750 | 1925 | 2125 | 1050 | 1325 | 1475 | 1625 |                                 |
| S1  | 46   | 55   | 65   | 70   | 44   | 55   | 60   | 65   | 34   | 43   | 47   | 50   | X-Heads                         |
|     | 150  | 180  | 215  | 230  | 145  | 180  | 195  | 215  | 110  | 140  | 155  | 165  |                                 |
| S2  | 37   | 46   | 50   | 55   | 35   | 44   | 49   | 55   | 28   | 34   | 38   | 42   | X-Heads                         |
|     | 120  | 150  | 165  | 180  | 115  | 145  | 160  | 180  | 90   | 110  | 125  | 140  |                                 |
| S3  | 32   | 40   | 45   | 50   | 31   | 38   | 43   | 47   | 24   | 30   | 33   | 37   | X-Heads                         |
|     | 105  | 130  | 150  | 165  | 100  | 125  | 140  | 155  | 80   | 100  | 110  | 120  |                                 |
| S11 | 65   | 80   | 90   | 100  | 60   | 75   | 85   | 95   | 48   | 60   | 65   | 75   | X-Heads                         |
|     | 215  | 260  | 295  | 330  | 195  | 245  | 280  | 310  | 155  | 195  | 215  | 245  |                                 |
| S12 | 45   | 55   | 60   | 70   | 43   | 55   | 60   | 65   | 33   | 41   | 47   | 50   | Minimaster                      |
|     | 150  | 180  | 195  | 230  | 140  | 180  | 195  | 215  | 110  | 135  | 155  | 165  |                                 |
| S13 | 26   | 32   | 36   | 40   | 25   | 31   | 34   | 38   | 19   | 24   | 27   | 29   | Minimaster                      |
|     | 85   | 105  | 120  | 130  | 80   | 100  | 110  | 125  | 60   | 80   | 90   | 95   |                                 |
| H5  | 39   | 49   | 55   | 60   | 37   | 46   | 50   | 55   | 29   | 36   | 40   | 44   | Minimaster                      |
|     | 130  | 160  | 180  | 195  | 120  | 150  | 165  | 180  | 95   | 120  | 130  | 145  |                                 |
| H8  | 41   | 50   | 55   | 60   | 39   | 48   | 55   | 60   | 30   | 37   | 42   | 46   | Minimaster                      |
|     | 135  | 165  | 180  | 195  | 130  | 155  | 180  | 195  | 100  | 120  | 140  | 150  |                                 |
| H11 | 49   | 60   | 70   | 75   | 47   | 60   | 65   | 70   | 37   | 46   | 50   | 55   | Minimaster                      |
|     | 160  | 195  | 230  | 245  | 155  | 195  | 215  | 230  | 120  | 150  | 165  | 180  |                                 |
| H12 | 75   | 90   | 100  | 110  | 70   | 85   | 95   | 105  | 55   | 65   | 75   | 85   | Minimaster                      |
|     | 245  | 295  | 330  | 360  | 230  | 280  | 310  | 345  | 180  | 215  | 245  | 280  |                                 |
| H21 | 41   | 50   | 55   | 60   | 39   | 48   | 55   | 60   | 30   | 37   | 42   | 46   | Minimaster                      |
|     | 135  | 165  | 180  | 195  | 130  | 155  | 180  | 195  | 100  | 120  | 140  | 150  |                                 |

## MM12 Z3 – Copy milling – Insert selection – Roughing – mm/Inch

|                                 | SMG |                            | a <sub>p</sub> | f <sub>z</sub>  |                 |                 |                 |
|---------------------------------|-----|----------------------------|----------------|-----------------|-----------------|-----------------|-----------------|
|                                 |     |                            |                | 100%            | 40%             | 20%             | 10%             |
| Universal                       | P1  | MM12-12015-B90A30-M04 F40M | 2,5<br>0,10    | 0,070<br>0,0028 | 0,070<br>0,0028 | 0,070<br>0,0028 | 0,095<br>0,0038 |
|                                 | P2  | MM12-12015-B90A30-M04 F40M | 2,5<br>0,10    | 0,070<br>0,0028 | 0,070<br>0,0028 | 0,075<br>0,0030 | 0,095<br>0,0038 |
| Steel and cast iron             | P3  | MM12-12015-B90A30-M04 F40M | 2,5<br>0,10    | 0,070<br>0,0028 | 0,065<br>0,0026 | 0,070<br>0,0028 | 0,090<br>0,0036 |
|                                 | P4  | MM12-12015-B90A30-M04 F40M | 2,5<br>0,10    | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,070<br>0,0028 | 0,090<br>0,0036 |
|                                 | P5  | MM12-12015-B90A30-M04 F40M | 2,5<br>0,10    | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,090<br>0,0036 |
|                                 | P6  | MM12-12015-B90A30-M04 F40M | 2,5<br>0,10    | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,085<br>0,0034 |
|                                 | P7  | MM12-12015-B90A30-M04 F40M | 2,5<br>0,10    | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,085<br>0,0034 |
|                                 | P8  | MM12-12015-B90A30-M04 F40M | 2,5<br>0,10    | 0,070<br>0,0028 | 0,065<br>0,0026 | 0,070<br>0,0028 | 0,090<br>0,0036 |
| Stainless steel and S-materials | P11 | MM12-12015-B90A30-M04 F40M | 2,5<br>0,10    | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,085<br>0,0034 |
|                                 | P12 | MM12-12015-B90A30-M04 F40M | 2,0<br>0,080   | 0,046<br>0,0018 | 0,044<br>0,0017 | 0,046<br>0,0018 | 0,060<br>0,0024 |
|                                 | M1  | MM12-12015-B90A30-M04 F40M | 2,5<br>0,10    | 0,070<br>0,0028 | 0,070<br>0,0028 | 0,075<br>0,0030 | 0,095<br>0,0038 |
|                                 | M2  | MM12-12015-B90A30-M04 F40M | 2,5<br>0,10    | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,090<br>0,0036 |
| Non ferrous                     | M3  | MM12-12015-B90A30-M04 F40M | 2,0<br>0,080   | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,070<br>0,0028 |
|                                 | M4  | MM12-12015-B90A30-M04 F40M | 1,6<br>0,065   | 0,050<br>0,0020 | 0,048<br>0,0019 | 0,048<br>0,0019 | 0,060<br>0,0026 |
|                                 | M5  | MM12-12015-B90A30-M04 F40M | 1,6<br>0,065   | 0,050<br>0,0020 | 0,048<br>0,0019 | 0,048<br>0,0019 | 0,060<br>0,0026 |
|                                 | K1  | MM12-12015-B90A30-E04 F30M | 2,5<br>0,10    | 0,070<br>0,0028 | 0,070<br>0,0028 | 0,075<br>0,0030 | 0,095<br>0,0038 |
|                                 | K2  | MM12-12015-B90A30-E04 F30M | 2,5<br>0,10    | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,090<br>0,0036 |
| Hard                            | K3  | MM12-12015-B90A30-E04 F30M | 2,5<br>0,10    | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,090<br>0,0036 |
|                                 | K4  | MM12-12015-B90A30-E04 F30M | 2,5<br>0,10    | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,090<br>0,0036 |
|                                 | K5  | MM12-12015-B90A30-M04 F40M | 2,5<br>0,10    | 0,060<br>0,0024 | 0,055<br>0,0022 | 0,060<br>0,0024 | 0,080<br>0,0032 |
| Plastic and cfrp                | K6  | MM12-12015-B90A30-M04 F40M | 2,5<br>0,10    | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,065<br>0,0026 | 0,090<br>0,0036 |
|                                 | K7  | MM12-12015-B90A30-M04 F40M | 2,5<br>0,10    | 0,060<br>0,0024 | 0,055<br>0,0022 | 0,060<br>0,0024 | 0,080<br>0,0032 |
|                                 | N1  | MM12-12015-B90A30-E04 F30M | 2,5<br>0,10    | 0,090<br>0,0036 | 0,090<br>0,0036 | 0,095<br>0,0038 | 0,12<br>0,0048  |
| Graphite                        | N2  | MM12-12015-B90A30-E04 F30M | 2,5<br>0,10    | 0,090<br>0,0036 | 0,090<br>0,0036 | 0,095<br>0,0038 | 0,12<br>0,0048  |
|                                 | N3  | MM12-12015-B90A30-E04 F30M | 2,5<br>0,10    | 0,090<br>0,0036 | 0,090<br>0,0036 | 0,095<br>0,0038 | 0,12<br>0,0048  |
|                                 | N11 | MM12-12015-B90A30-E04 F30M | 2,5<br>0,10    | 0,090<br>0,0036 | 0,090<br>0,0036 | 0,095<br>0,0038 | 0,12<br>0,0048  |
| X-Heads                         | S1  | MM12-12015-B90A30-M04 F40M | 1,6<br>0,065   | 0,050<br>0,0020 | 0,048<br>0,0019 | 0,048<br>0,0019 | 0,060<br>0,0026 |
|                                 | S2  | MM12-12015-B90A30-M04 F40M | 1,6<br>0,065   | 0,050<br>0,0020 | 0,048<br>0,0019 | 0,048<br>0,0019 | 0,060<br>0,0026 |
|                                 | S3  | MM12-12015-B90A30-M04 F40M | 1,6<br>0,065   | 0,046<br>0,0018 | 0,046<br>0,0018 | 0,046<br>0,0018 | 0,055<br>0,0024 |
| Minimaster                      | S11 | MM12-12015-B90A30-M04 F40M | 1,9<br>0,075   | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,070<br>0,0028 |
|                                 | S12 | MM12-12015-B90A30-M04 F40M | 1,9<br>0,075   | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,055<br>0,0022 | 0,070<br>0,0028 |
|                                 | S13 | MM12-12015-B90A30-M04 F40M | 1,6<br>0,065   | 0,050<br>0,0020 | 0,048<br>0,0019 | 0,048<br>0,0019 | 0,060<br>0,0026 |
|                                 | H5  | MM12-12015-B90A30-E04 F30M | 2,0<br>0,080   | 0,046<br>0,0018 | 0,044<br>0,0017 | 0,046<br>0,0018 | 0,060<br>0,0024 |
|                                 | H8  | MM12-12015-B90A30-E04 F30M | 1,9<br>0,075   | 0,036<br>0,0014 | 0,036<br>0,0014 | 0,036<br>0,0014 | 0,046<br>0,0018 |
|                                 | H11 | MM12-12015-B90A30-E04 F30M | 2,0<br>0,080   | 0,046<br>0,0018 | 0,044<br>0,0017 | 0,046<br>0,0018 | 0,060<br>0,0024 |
|                                 | H12 | MM12-12015-B90A30-E04 F30M | 1,9<br>0,075   | 0,036<br>0,0014 | 0,036<br>0,0014 | 0,036<br>0,0014 | 0,046<br>0,0018 |
|                                 | H21 | MM12-12015-B90A30-E04 F30M | 1,9<br>0,075   | 0,036<br>0,0014 | 0,036<br>0,0014 | 0,036<br>0,0014 | 0,046<br>0,0018 |

SMG = Seco material group

f<sub>z</sub> = mm/tooth (in/tooth), v<sub>c</sub> = m/min (sf/min), a<sub>e</sub>/DC = %

All cutting data are start values

**MM12 Z3 – Copy milling – Insert selection – Finishing – mm/Inch**

| SMG |                            | a <sub>p</sub> |        | f <sub>z</sub> |        |        |
|-----|----------------------------|----------------|--------|----------------|--------|--------|
|     |                            |                |        | 15%            | 10%    | 5%     |
| P1  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,080  | 0,095          | 0,13   | 0,22   |
|     |                            | 0.10           | 0.0032 | 0.0038         | 0.0050 | 0.0085 |
| P2  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,080  | 0,095          | 0,13   | 0,22   |
|     |                            | 0.10           | 0.0032 | 0.0038         | 0.0050 | 0.0085 |
| P3  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,075  | 0,090          | 0,13   | 0,20   |
|     |                            | 0.10           | 0.0030 | 0.0036         | 0.0050 | 0.0080 |
| P4  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,075  | 0,090          | 0,12   | 0,20   |
|     |                            | 0.10           | 0.0030 | 0.0036         | 0.0048 | 0.0080 |
| P5  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,075  | 0,090          | 0,12   | 0,20   |
|     |                            | 0.10           | 0.0030 | 0.0036         | 0.0048 | 0.0080 |
| P6  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,075  | 0,085          | 0,12   | 0,19   |
|     |                            | 0.10           | 0.0030 | 0.0034         | 0.0048 | 0.0075 |
| P7  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,075  | 0,085          | 0,12   | 0,19   |
|     |                            | 0.10           | 0.0030 | 0.0034         | 0.0048 | 0.0075 |
| P8  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,075  | 0,090          | 0,13   | 0,20   |
|     |                            | 0.10           | 0.0030 | 0.0036         | 0.0050 | 0.0080 |
| P11 | MM12-12015-B90A30-E04 F30M | 2,5            | 0,075  | 0,085          | 0,12   | 0,19   |
|     |                            | 0.10           | 0.0030 | 0.0034         | 0.0048 | 0.0075 |
| P12 | MM12-12015-B90A30-E04 F30M | 2,0            | 0,050  | 0,060          | 0,080  | 0,13   |
|     |                            | 0.080          | 0.0020 | 0.0024         | 0.0032 | 0.0050 |
| M1  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,080  | 0,095          | 0,13   | 0,22   |
|     |                            | 0.10           | 0.0032 | 0.0038         | 0.0050 | 0.0085 |
| M2  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,075  | 0,090          | 0,12   | 0,20   |
|     |                            | 0.10           | 0.0030 | 0.0036         | 0.0048 | 0.0080 |
| M3  | MM12-12015-B90A30-E04 F30M | 2,0            | 0,060  | 0,070          | 0,095  | 0,16   |
|     |                            | 0.080          | 0.0024 | 0.0028         | 0.0038 | 0.0065 |
| M4  | MM12-12015-B90A30-E04 F30M | 1,6            | 0,055  | 0,060          | 0,085  | 0,14   |
|     |                            | 0.065          | 0.0022 | 0.0026         | 0.0034 | 0.0055 |
| M5  | MM12-12015-B90A30-E04 F30M | 1,6            | 0,055  | 0,060          | 0,085  | 0,14   |
|     |                            | 0.065          | 0.0022 | 0.0026         | 0.0034 | 0.0055 |
| K1  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,080  | 0,095          | 0,13   | 0,22   |
|     |                            | 0.10           | 0.0032 | 0.0038         | 0.0050 | 0.0085 |
| K2  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,075  | 0,090          | 0,12   | 0,20   |
|     |                            | 0.10           | 0.0030 | 0.0036         | 0.0048 | 0.0080 |
| K3  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,075  | 0,090          | 0,12   | 0,20   |
|     |                            | 0.10           | 0.0030 | 0.0036         | 0.0048 | 0.0080 |
| K4  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,075  | 0,090          | 0,12   | 0,20   |
|     |                            | 0.10           | 0.0030 | 0.0036         | 0.0048 | 0.0080 |
| K5  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,065  | 0,080          | 0,11   | 0,18   |
|     |                            | 0.10           | 0.0026 | 0.0032         | 0.0044 | 0.0070 |
| K6  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,075  | 0,090          | 0,12   | 0,20   |
|     |                            | 0.10           | 0.0030 | 0.0036         | 0.0048 | 0.0080 |
| K7  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,065  | 0,080          | 0,11   | 0,18   |
|     |                            | 0.10           | 0.0026 | 0.0032         | 0.0044 | 0.0070 |
| N1  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,10   | 0,12           | 0,17   | 0,28   |
|     |                            | 0.10           | 0.0040 | 0.0048         | 0.0065 | 0.011  |
| N2  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,10   | 0,12           | 0,17   | 0,28   |
|     |                            | 0.10           | 0.0040 | 0.0048         | 0.0065 | 0.011  |
| N3  | MM12-12015-B90A30-E04 F30M | 2,5            | 0,10   | 0,12           | 0,17   | 0,28   |
|     |                            | 0.10           | 0.0040 | 0.0048         | 0.0065 | 0.011  |
| N11 | MM12-12015-B90A30-E04 F30M | 2,5            | 0,10   | 0,12           | 0,17   | 0,28   |
|     |                            | 0.10           | 0.0040 | 0.0048         | 0.0065 | 0.011  |
| S1  | MM12-12015-B90A30-E04 F30M | 1,6            | 0,055  | 0,060          | 0,085  | 0,14   |
|     |                            | 0.065          | 0.0022 | 0.0026         | 0.0034 | 0.0055 |
| S2  | MM12-12015-B90A30-E04 F30M | 1,6            | 0,055  | 0,060          | 0,085  | 0,14   |
|     |                            | 0.065          | 0.0022 | 0.0026         | 0.0034 | 0.0055 |
| S3  | MM12-12015-B90A30-E04 F30M | 1,6            | 0,050  | 0,055          | 0,080  | 0,13   |
|     |                            | 0.065          | 0.0020 | 0.0024         | 0.0032 | 0.0050 |
| S11 | MM12-12015-B90A30-E04 F30M | 1,9            | 0,060  | 0,070          | 0,095  | 0,16   |
|     |                            | 0.075          | 0.0024 | 0.0028         | 0.0038 | 0.0065 |
| S12 | MM12-12015-B90A30-E04 F30M | 1,9            | 0,060  | 0,070          | 0,095  | 0,16   |
|     |                            | 0.075          | 0.0024 | 0.0028         | 0.0038 | 0.0065 |
| S13 | MM12-12015-B90A30-E04 F30M | 1,6            | 0,055  | 0,060          | 0,085  | 0,14   |
|     |                            | 0.065          | 0.0022 | 0.0026         | 0.0034 | 0.0055 |
| H5  | MM12-12015-B90A30-E04 F30M | 2,0            | 0,050  | 0,060          | 0,080  | 0,13   |
|     |                            | 0.080          | 0.0020 | 0.0024         | 0.0032 | 0.0050 |
| H8  | MM12-12015-B90A30-E04 F30M | 1,9            | 0,040  | 0,046          | 0,065  | 0,10   |
|     |                            | 0.075          | 0.0016 | 0.0018         | 0.0026 | 0.0040 |
| H11 | MM12-12015-B90A30-E04 F30M | 2,0            | 0,050  | 0,060          | 0,080  | 0,13   |
|     |                            | 0.080          | 0.0020 | 0.0024         | 0.0032 | 0.0050 |
| H12 | MM12-12015-B90A30-E04 F30M | 1,9            | 0,040  | 0,046          | 0,065  | 0,10   |
|     |                            | 0.075          | 0.0016 | 0.0018         | 0.0026 | 0.0040 |
| H21 | MM12-12015-B90A30-E04 F30M | 1,9            | 0,040  | 0,046          | 0,065  | 0,10   |
|     |                            | 0.075          | 0.0016 | 0.0018         | 0.0026 | 0.0040 |

SMG = Seco material group

 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e/DC$  = %

All cutting data are start values

MM12 Z3 – Copy milling – Cutting data  $v_c = (m/min)/(sf/min)$ 

|                                 | SMG | F30M |      |      |      |      | F40M |      |      |      |      |
|---------------------------------|-----|------|------|------|------|------|------|------|------|------|------|
|                                 |     | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   |
| Universal                       | P1  | 270  | 315  | 335  | 365  | 360  | 255  | 300  | 320  | 345  | 340  |
|                                 |     | 890  | 1025 | 1100 | 1200 | 1175 | 840  | 980  | 1050 | 1125 | 1125 |
| Steel and cast iron             | P2  | 265  | 305  | 325  | 355  | 350  | 250  | 290  | 310  | 335  | 330  |
|                                 |     | 870  | 1000 | 1075 | 1175 | 1150 | 820  | 950  | 1025 | 1100 | 1075 |
|                                 | P3  | 225  | 265  | 285  | 305  | 305  | 215  | 255  | 270  | 290  | 290  |
|                                 |     | 740  | 870  | 940  | 1000 | 1000 | 710  | 840  | 890  | 950  | 950  |
|                                 | P4  | 200  | 235  | 250  | 270  | 270  | 190  | 225  | 235  | 260  | 255  |
|                                 |     | 660  | 770  | 820  | 890  | 890  | 620  | 740  | 770  | 850  | 840  |
|                                 | P5  | 195  | 225  | 240  | 260  | 255  | 185  | 215  | 225  | 245  | 245  |
|                                 |     | 640  | 740  | 790  | 850  | 840  | 610  | 710  | 740  | 800  | 800  |
|                                 | P6  | 215  | 255  | 270  | 290  | 290  | 205  | 240  | 255  | 275  | 275  |
|                                 |     | 710  | 840  | 890  | 950  | 950  | 670  | 790  | 840  | 900  | 900  |
| Stainless steel and S-materials | P7  | 205  | 240  | 255  | 275  | 275  | 195  | 230  | 240  | 260  | 260  |
|                                 |     | 670  | 790  | 840  | 900  | 900  | 640  | 750  | 790  | 850  | 850  |
|                                 | P8  | 190  | 225  | 240  | 255  | 255  | 180  | 215  | 225  | 245  | 245  |
|                                 |     | 620  | 740  | 790  | 840  | 840  | 590  | 710  | 740  | 800  | 800  |
|                                 | P11 | 200  | 235  | 245  | 265  | 265  | 190  | 220  | 235  | 255  | 255  |
|                                 |     | 660  | 770  | 800  | 870  | 870  | 620  | 720  | 770  | 840  | 840  |
|                                 | P12 | 125  | 150  | 155  | 170  | 165  | 120  | 140  | 145  | 160  | 160  |
|                                 |     | 410  | 490  | 510  | 560  | 540  | 395  | 460  | 490  | 520  | 520  |
| Non ferrous                     | M1  | 210  | 245  | 265  | 285  | 280  | 200  | 235  | 250  | 270  | 270  |
|                                 |     | 690  | 800  | 870  | 940  | 920  | 660  | 770  | 820  | 890  | 890  |
|                                 | M2  | 175  | 205  | 215  | 235  | 230  | 165  | 195  | 205  | 220  | 220  |
|                                 |     | 570  | 670  | 710  | 770  | 750  | 540  | 640  | 670  | 720  | 720  |
|                                 | M3  | 140  | 165  | 170  | 185  | 185  | 130  | 155  | 160  | 175  | 175  |
|                                 |     | 460  | 540  | 560  | 610  | 610  | 425  | 510  | 540  | 570  | 570  |
|                                 | M4  | 100  | 130  | 130  | 140  | 140  | 95   | 125  | 125  | 135  | 135  |
|                                 |     | 330  | 425  | 460  | 460  | 460  | 310  | 410  | 425  | 445  | 445  |
|                                 | M5  | 80   | 110  | 110  | 115  | 115  | 80   | 105  | 105  | 110  | 110  |
|                                 |     | 260  | 360  | 375  | 375  | 375  | 260  | 345  | 360  | 360  | 360  |
| Hard                            | K1  | 210  | 240  | 260  | 280  | 275  | 200  | 230  | 245  | 265  | 265  |
|                                 |     | 690  | 790  | 850  | 920  | 900  | 660  | 750  | 800  | 870  | 870  |
|                                 | K2  | 185  | 215  | 225  | 245  | 245  | 175  | 205  | 215  | 235  | 230  |
|                                 |     | 610  | 710  | 740  | 800  | 800  | 570  | 670  | 710  | 770  | 750  |
|                                 | K3  | 155  | 180  | 190  | 210  | 205  | 145  | 175  | 180  | 200  | 195  |
|                                 |     | 510  | 590  | 620  | 690  | 670  | 475  | 570  | 590  | 660  | 640  |
| Plastic and cfrp                | K4  | 150  | 175  | 180  | 200  | 195  | 140  | 165  | 175  | 190  | 185  |
|                                 |     | 490  | 570  | 590  | 660  | 640  | 460  | 540  | 570  | 620  | 610  |
|                                 | K5  | 90   | 105  | 110  | 120  | 120  | 85   | 100  | 105  | 115  | 115  |
|                                 |     | 295  | 345  | 360  | 395  | 395  | 280  | 330  | 345  | 375  | 375  |
|                                 | K6  | 130  | 155  | 160  | 175  | 175  | 125  | 145  | 155  | 165  | 165  |
|                                 |     | 425  | 510  | 520  | 570  | 570  | 410  | 475  | 510  | 540  | 540  |
|                                 | K7  | 115  | 135  | 140  | 155  | 155  | 110  | 125  | 135  | 145  | 145  |
|                                 |     | 375  | 445  | 460  | 510  | 510  | 360  | 410  | 445  | 475  | 475  |
| Graphite                        | N1  | 1575 | 1825 | 1950 | 2100 | 2100 | 1500 | 1750 | 1850 | 2000 | 2000 |
|                                 |     | 5175 | 6000 | 6400 | 6900 | 6900 | 4925 | 5750 | 6075 | 6550 | 6550 |
|                                 | N2  | 640  | 740  | 790  | 850  | 840  | 610  | 700  | 750  | 810  | 800  |
|                                 |     | 2100 | 2425 | 2600 | 2800 | 2750 | 2000 | 2300 | 2450 | 2650 | 2625 |
|                                 | N3  | 425  | 495  | 530  | 570  | 560  | 405  | 470  | 500  | 540  | 540  |
|                                 |     | 1400 | 1625 | 1750 | 1875 | 1825 | 1325 | 1550 | 1650 | 1775 | 1775 |
|                                 | N11 | 485  | 560  | 600  | 650  | 640  | 460  | 540  | 570  | 620  | 610  |
|                                 |     | 1600 | 1825 | 1975 | 2125 | 2100 | 1500 | 1775 | 1875 | 2025 | 2000 |
| X-Heads                         | S1  | 46   | 60   | 60   | 65   | 65   | 44   | 60   | 60   | 65   | 60   |
|                                 |     | 150  | 195  | 215  | 215  | 215  | 145  | 195  | 195  | 215  | 195  |
|                                 | S2  | 37   | 50   | 49   | 55   | 55   | 35   | 47   | 47   | 50   | 50   |
|                                 |     | 120  | 165  | 165  | 180  | 180  | 115  | 155  | 165  | 165  | 165  |
|                                 | S3  | 32   | 43   | 43   | 46   | 46   | 31   | 41   | 41   | 44   | 44   |
|                                 |     | 105  | 140  | 150  | 150  | 150  | 100  | 135  | 140  | 145  | 145  |
|                                 | S11 | 70   | 85   | 85   | 95   | 90   | 65   | 80   | 80   | 90   | 90   |
|                                 |     | 230  | 280  | 295  | 310  | 295  | 215  | 260  | 280  | 295  | 295  |
| Minimaster                      | S12 | 48   | 60   | 60   | 65   | 65   | 46   | 55   | 55   | 60   | 60   |
|                                 |     | 155  | 195  | 195  | 215  | 215  | 150  | 180  | 195  | 195  | 195  |
|                                 | S13 | 26   | 35   | 34   | 37   | 37   | 25   | 33   | 33   | 35   | 35   |
|                                 |     | 85   | 115  | 120  | 120  | 120  | 80   | 110  | 115  | 115  | 115  |
|                                 | H5  | 42   | 50   | 50   | 55   | 55   | 40   | 47   | 49   | 55   | 55   |
|                                 |     | 140  | 165  | 165  | 180  | 180  | 130  | 155  | 160  | 180  | 180  |
|                                 | H8  | 42   | 55   | 55   | 55   | 55   | 40   | 50   | 50   | 55   | 55   |
|                                 |     | 140  | 180  | 180  | 180  | 180  | 130  | 165  | 165  | 180  | 180  |
|                                 | H11 | 55   | 65   | 65   | 70   | 70   | 50   | 60   | 60   | 65   | 65   |
|                                 |     | 180  | 215  | 215  | 230  | 230  | 165  | 195  | 195  | 215  | 215  |
|                                 | H12 | 75   | 95   | 95   | 105  | 105  | 75   | 90   | 90   | 100  | 100  |
|                                 |     | 245  | 310  | 330  | 345  | 345  | 245  | 295  | 310  | 330  | 330  |
|                                 | H21 | 42   | 55   | 55   | 55   | 55   | 40   | 50   | 50   | 55   | 55   |
|                                 |     | 140  | 180  | 180  | 180  | 180  | 130  | 165  | 165  | 180  | 180  |



**MM12 Z2 – Copy milling – Insert selection – Roughing – mm/Inch**

| SMG |                          | $a_p$ | $f_z$  |        |        |        |
|-----|--------------------------|-------|--------|--------|--------|--------|
|     |                          |       | 100%   | 40%    | 20%    | 10%    |
| P1  | MM12-12012-B90S-E05 F30M | 5,0   | 0,075  | 0,080  | 0,090  | 0,12   |
|     |                          | 0.20  | 0.0030 | 0.0032 | 0.0036 | 0.0048 |
| P2  | MM12-12012-B90S-E05 F30M | 5,0   | 0,080  | 0,080  | 0,090  | 0,12   |
|     |                          | 0.20  | 0.0032 | 0.0032 | 0.0036 | 0.0048 |
| P3  | MM12-12012-B90S-E05 F30M | 5,0   | 0,075  | 0,075  | 0,085  | 0,11   |
|     |                          | 0.20  | 0.0030 | 0.0030 | 0.0034 | 0.0044 |
| P4  | MM12-12012-B90-MD05 F30M | 5,0   | 0,075  | 0,075  | 0,085  | 0,11   |
|     |                          | 0.20  | 0.0030 | 0.0030 | 0.0034 | 0.0044 |
| P5  | MM12-12012-B90-MD05 F30M | 5,0   | 0,070  | 0,070  | 0,085  | 0,11   |
|     |                          | 0.20  | 0.0028 | 0.0028 | 0.0034 | 0.0044 |
| P6  | MM12-12012-B90-MD05 F30M | 5,0   | 0,070  | 0,070  | 0,080  | 0,11   |
|     |                          | 0.20  | 0.0028 | 0.0028 | 0.0032 | 0.0044 |
| P7  | MM12-12012-B90-MD05 F30M | 5,0   | 0,070  | 0,070  | 0,080  | 0,11   |
|     |                          | 0.20  | 0.0028 | 0.0028 | 0.0032 | 0.0044 |
| P8  | MM12-12012-B90-MD05 F30M | 5,0   | 0,075  | 0,075  | 0,085  | 0,11   |
|     |                          | 0.20  | 0.0030 | 0.0030 | 0.0034 | 0.0044 |
| P11 | MM12-12012-B90-MD05 F30M | 5,0   | 0,070  | 0,070  | 0,080  | 0,11   |
|     |                          | 0.20  | 0.0028 | 0.0028 | 0.0032 | 0.0044 |
| P12 | MM12-12012-B90-MD05 F30M | 4,0   | 0,050  | 0,050  | 0,060  | 0,075  |
|     |                          | 0.16  | 0.0020 | 0.0020 | 0.0024 | 0.0030 |
| M1  | MM12-12012-B90S-E05 F30M | 5,0   | 0,080  | 0,080  | 0,090  | 0,12   |
|     |                          | 0.20  | 0.0032 | 0.0032 | 0.0036 | 0.0048 |
| M2  | MM12-12012-B90S-E05 F30M | 5,0   | 0,070  | 0,070  | 0,085  | 0,11   |
|     |                          | 0.20  | 0.0028 | 0.0028 | 0.0034 | 0.0044 |
| M3  | MM12-12012-B90S-E05 F30M | 4,0   | 0,060  | 0,060  | 0,070  | 0,090  |
|     |                          | 0.16  | 0.0024 | 0.0024 | 0.0028 | 0.0036 |
| M4  | MM12-12012-B90-MD05 F30M | 3,0   | 0,055  | 0,055  | 0,060  | 0,075  |
|     |                          | 0.12  | 0.0022 | 0.0022 | 0.0024 | 0.0032 |
| M5  | MM12-12012-B90-MD05 F30M | 3,0   | 0,055  | 0,055  | 0,060  | 0,075  |
|     |                          | 0.12  | 0.0022 | 0.0022 | 0.0024 | 0.0032 |
| K1  | MM12-12012-B90S-E05 F30M | 5,0   | 0,080  | 0,080  | 0,090  | 0,12   |
|     |                          | 0.20  | 0.0032 | 0.0032 | 0.0036 | 0.0048 |
| K2  | MM12-12012-B90S-E05 F30M | 5,0   | 0,070  | 0,070  | 0,085  | 0,11   |
|     |                          | 0.20  | 0.0028 | 0.0028 | 0.0034 | 0.0044 |
| K3  | MM12-12012-B90S-E05 F30M | 5,0   | 0,070  | 0,070  | 0,085  | 0,11   |
|     |                          | 0.20  | 0.0028 | 0.0028 | 0.0034 | 0.0044 |
| K4  | MM12-12012-B90S-E05 F30M | 5,0   | 0,070  | 0,070  | 0,085  | 0,11   |
|     |                          | 0.20  | 0.0028 | 0.0028 | 0.0034 | 0.0044 |
| K5  | MM12-12012-B90-MD05 F30M | 5,0   | 0,065  | 0,065  | 0,075  | 0,10   |
|     |                          | 0.20  | 0.0026 | 0.0026 | 0.0030 | 0.0040 |
| K6  | MM12-12012-B90-MD05 F30M | 5,0   | 0,070  | 0,070  | 0,085  | 0,11   |
|     |                          | 0.20  | 0.0028 | 0.0028 | 0.0034 | 0.0044 |
| K7  | MM12-12012-B90-MD05 F30M | 5,0   | 0,065  | 0,065  | 0,075  | 0,10   |
|     |                          | 0.20  | 0.0026 | 0.0026 | 0.0030 | 0.0040 |
| N1  | MM12-12012-B90S-E05 F30M | 5,0   | 0,10   | 0,10   | 0,12   | 0,15   |
|     |                          | 0.20  | 0.0040 | 0.0040 | 0.0048 | 0.0060 |
| N2  | MM12-12012-B90S-E05 F30M | 5,0   | 0,10   | 0,10   | 0,12   | 0,15   |
|     |                          | 0.20  | 0.0040 | 0.0040 | 0.0048 | 0.0060 |
| N3  | MM12-12012-B90S-E05 F30M | 5,0   | 0,10   | 0,10   | 0,12   | 0,15   |
|     |                          | 0.20  | 0.0040 | 0.0040 | 0.0048 | 0.0060 |
| N11 | MM12-12012-B90S-E05 F30M | 5,0   | 0,10   | 0,10   | 0,12   | 0,15   |
|     |                          | 0.20  | 0.0040 | 0.0040 | 0.0048 | 0.0060 |
| S1  | MM12-12012-B90-MD05 F30M | 3,0   | 0,055  | 0,055  | 0,060  | 0,075  |
|     |                          | 0.12  | 0.0022 | 0.0022 | 0.0024 | 0.0032 |
| S2  | MM12-12012-B90-MD05 F30M | 3,0   | 0,055  | 0,055  | 0,060  | 0,075  |
|     |                          | 0.12  | 0.0022 | 0.0022 | 0.0024 | 0.0032 |
| S3  | MM12-12012-B90-MD05 F30M | 3,0   | 0,050  | 0,050  | 0,055  | 0,070  |
|     |                          | 0.12  | 0.0020 | 0.0020 | 0.0022 | 0.0030 |
| S11 | MM12-12012-B90-MD05 F30M | 3,5   | 0,060  | 0,060  | 0,070  | 0,090  |
|     |                          | 0.14  | 0.0024 | 0.0024 | 0.0028 | 0.0036 |
| S12 | MM12-12012-B90-MD05 F30M | 3,5   | 0,060  | 0,060  | 0,070  | 0,090  |
|     |                          | 0.14  | 0.0024 | 0.0024 | 0.0028 | 0.0036 |
| S13 | MM12-12012-B90-MD05 F30M | 3,0   | 0,055  | 0,055  | 0,060  | 0,075  |
|     |                          | 0.12  | 0.0022 | 0.0022 | 0.0024 | 0.0032 |
| H5  | MM12-12012-B90-MD05 F30M | 4,0   | 0,050  | 0,050  | 0,060  | 0,075  |
|     |                          | 0.16  | 0.0020 | 0.0020 | 0.0024 | 0.0030 |
| H8  | MM12-12012-B90-MD05 F30M | 3,5   | 0,040  | 0,040  | 0,044  | 0,055  |
|     |                          | 0.14  | 0.0016 | 0.0016 | 0.0017 | 0.0024 |
| H11 | MM12-12012-B90-MD05 F30M | 4,0   | 0,050  | 0,050  | 0,060  | 0,075  |
|     |                          | 0.16  | 0.0020 | 0.0020 | 0.0024 | 0.0030 |
| H12 | MM12-12012-B90-MD05 F30M | 3,5   | 0,040  | 0,040  | 0,044  | 0,055  |
|     |                          | 0.14  | 0.0016 | 0.0016 | 0.0017 | 0.0024 |
| H21 | MM12-12012-B90-MD05 F30M | 3,5   | 0,040  | 0,040  | 0,044  | 0,055  |
|     |                          | 0.14  | 0.0016 | 0.0016 | 0.0017 | 0.0024 |

SMG = Seco material group

 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e/DC$  = %

All cutting data are start values

 Universal  
 Steel and cast iron  
 Stainless steel and S-materials  
 Stainless steel and S-materials  
 Non ferrous  
 Hard  
 Graphite  
 X-Heads  
 Minimaster

### MM12 Z2 – Copy milling – Insert selection – Finishing – mm/Inch

|                                 | SMG |                           | $a_p$       | $f_z$            |                  |                 |                 |
|---------------------------------|-----|---------------------------|-------------|------------------|------------------|-----------------|-----------------|
|                                 |     |                           |             | 15%              | 10%              | 5%              | 2%              |
| Universal                       | P1  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,040<br>0.0016  | 0,048<br>0.0019  | 0,065<br>0.0026 | 0,11<br>0.0044  |
|                                 | P2  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,042<br>0.0017  | 0,048<br>0.0019  | 0,070<br>0.0028 | 0,11<br>0.0044  |
| Steel and cast iron             | P3  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,040<br>0.0016  | 0,046<br>0.0018  | 0,065<br>0.0026 | 0,10<br>0.0040  |
|                                 | P4  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,038<br>0.0015  | 0,046<br>0.0018  | 0,065<br>0.0026 | 0,10<br>0.0040  |
|                                 | P5  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,095<br>0.0038 |
|                                 | P6  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,095<br>0.0038 |
|                                 | P7  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,095<br>0.0038 |
|                                 | P8  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,038<br>0.0016  | 0,044<br>0.0018  | 0,060<br>0.0026 | 0,095<br>0.0040 |
| Stainless steel and S-materials | P11 | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,095<br>0.0038 |
|                                 | P12 | MM12-12012-B90PF-M02 F15M | 3,5<br>0,14 | 0,026<br>0.0010  | 0,030<br>0.0012  | 0,042<br>0.0017 | 0,065<br>0.0026 |
|                                 | M1  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,042<br>0.0017  | 0,048<br>0.0019  | 0,070<br>0.0028 | 0,11<br>0.0044  |
|                                 | M2  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,095<br>0.0038 |
| Non ferrous                     | M3  | MM12-12012-B90PF-M02 F15M | 3,5<br>0,14 | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,050<br>0.0020 | 0,075<br>0.0030 |
|                                 | M4  | MM12-12012-B90PF-M02 F15M | 2,5<br>0,10 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,042<br>0.0017 | 0,065<br>0.0026 |
|                                 | M5  | MM12-12012-B90PF-M02 F15M | 2,5<br>0,10 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,042<br>0.0017 | 0,065<br>0.0026 |
|                                 | K1  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,042<br>0.0017  | 0,048<br>0.0019  | 0,070<br>0.0028 | 0,11<br>0.0044  |
|                                 | K2  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,095<br>0.0038 |
| Hard                            | K3  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,095<br>0.0038 |
|                                 | K4  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,095<br>0.0038 |
|                                 | K5  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,034<br>0.0013  | 0,040<br>0.0016  | 0,055<br>0.0022 | 0,085<br>0.0034 |
|                                 | K6  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,038<br>0.0015  | 0,044<br>0.0017  | 0,060<br>0.0024 | 0,095<br>0.0038 |
| Plastic and cfrp                | K7  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,034<br>0.0013  | 0,040<br>0.0016  | 0,055<br>0.0022 | 0,085<br>0.0034 |
|                                 | N1  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,055<br>0.0022  | 0,060<br>0.0024  | 0,085<br>0.0034 | 0,14<br>0.0055  |
|                                 | N2  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,055<br>0.0022  | 0,060<br>0.0024  | 0,085<br>0.0034 | 0,14<br>0.0055  |
|                                 | N3  | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,055<br>0.0022  | 0,060<br>0.0024  | 0,085<br>0.0034 | 0,14<br>0.0055  |
| Graphite                        | N11 | MM12-12012-B90PF-M02 F15M | 4,0<br>0,16 | 0,055<br>0.0022  | 0,060<br>0.0024  | 0,085<br>0.0034 | 0,14<br>0.0055  |
|                                 | S1  | MM12-12012-B90PF-M02 F15M | 2,5<br>0,10 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,042<br>0.0017 | 0,065<br>0.0026 |
|                                 | S2  | MM12-12012-B90PF-M02 F15M | 2,5<br>0,10 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,042<br>0.0017 | 0,065<br>0.0026 |
|                                 | S3  | MM12-12012-B90PF-M02 F15M | 2,5<br>0,10 | 0,025<br>0.0010  | 0,028<br>0.0012  | 0,040<br>0.0016 | 0,065<br>0.0026 |
| X-Heads                         | S11 | MM12-12012-B90PF-M02 F15M | 3,0<br>0,12 | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,050<br>0.0020 | 0,075<br>0.0030 |
|                                 | S12 | MM12-12012-B90PF-M02 F15M | 3,0<br>0,12 | 0,030<br>0.0012  | 0,036<br>0.0014  | 0,050<br>0.0020 | 0,075<br>0.0030 |
|                                 | S13 | MM12-12012-B90PF-M02 F15M | 2,5<br>0,10 | 0,028<br>0.0011  | 0,032<br>0.0013  | 0,042<br>0.0017 | 0,065<br>0.0026 |
|                                 | H5  | MM12-12012-B90PF-M02 F15M | 3,5<br>0,14 | 0,026<br>0.0010  | 0,030<br>0.0012  | 0,042<br>0.0017 | 0,065<br>0.0026 |
|                                 | H8  | MM12-12012-B90PF-M02 F15M | 3,0<br>0,12 | 0,020<br>0.00080 | 0,024<br>0.00095 | 0,032<br>0.0013 | 0,050<br>0.0020 |
| Minimaster                      | H11 | MM12-12012-B90PF-M02 F15M | 3,5<br>0,14 | 0,026<br>0.0010  | 0,030<br>0.0012  | 0,042<br>0.0017 | 0,065<br>0.0026 |
|                                 | H12 | MM12-12012-B90PF-M02 F15M | 3,0<br>0,12 | 0,020<br>0.00080 | 0,024<br>0.00095 | 0,032<br>0.0013 | 0,050<br>0.0020 |
|                                 | H21 | MM12-12012-B90PF-M02 F15M | 3,0<br>0,12 | 0,020<br>0.00080 | 0,024<br>0.00095 | 0,032<br>0.0013 | 0,050<br>0.0020 |

SMG = Seco material group  
 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %  
 All cutting data are start values

### MM12 Z2 – Copy milling – Cutting data $v_c = (m/min)/(sf/min)$

| SMG | F15M |      |      |      |      | F30M |      |      |      |      | T60M |      |      |      |      | Universal                       |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------------------------|
|     | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   |                                 |
| P1  | 310  | 390  | 410  | 445  | 440  | 240  | 300  | 325  | 350  | 345  | 195  | 240  | 265  | 285  | 280  | Steel and cast iron             |
|     | 1025 | 1275 | 1350 | 1450 | 1450 | 790  | 980  | 1075 | 1150 | 1125 | 640  | 790  | 870  | 940  | 920  |                                 |
| P2  | 300  | 380  | 400  | 430  | 430  | 230  | 290  | 315  | 340  | 340  | 185  | 235  | 255  | 275  | 275  | Steel and cast iron             |
|     | 980  | 1250 | 1300 | 1400 | 1400 | 750  | 950  | 1025 | 1125 | 1125 | 610  | 770  | 840  | 900  | 900  |                                 |
| P3  | 260  | 330  | 345  | 370  | 370  | 200  | 255  | 275  | 295  | 295  | 160  | 205  | 225  | 240  | 240  | Steel and cast iron             |
|     | 850  | 1075 | 1125 | 1225 | 1225 | 660  | 840  | 900  | 970  | 970  | 520  | 670  | 740  | 790  | 790  |                                 |
| P4  | 230  | 290  | 305  | 325  | 330  | 175  | 225  | 245  | 260  | 260  | 145  | 180  | 195  | 210  | 210  | Steel and cast iron             |
|     | 750  | 950  | 1000 | 1075 | 1075 | 570  | 740  | 800  | 850  | 850  | 475  | 590  | 640  | 690  | 690  |                                 |
| P5  | 220  | 275  | 290  | 315  | 315  | 170  | 215  | 235  | 255  | 250  | 140  | 170  | 190  | 205  | 200  | Steel and cast iron             |
|     | 720  | 900  | 950  | 1025 | 1025 | 560  | 710  | 770  | 840  | 820  | 460  | 560  | 620  | 670  | 660  |                                 |
| P6  | 245  | 310  | 325  | 355  | 355  | 190  | 240  | 260  | 285  | 280  | 155  | 195  | 210  | 230  | 225  | Steel and cast iron             |
|     | 800  | 1025 | 1075 | 1175 | 1175 | 620  | 790  | 850  | 940  | 920  | 510  | 640  | 690  | 750  | 740  |                                 |
| P7  | 230  | 295  | 310  | 335  | 335  | 180  | 230  | 245  | 270  | 265  | 145  | 185  | 200  | 215  | 215  | Stainless steel and S-materials |
|     | 750  | 970  | 1025 | 1100 | 1100 | 590  | 750  | 800  | 890  | 870  | 475  | 610  | 660  | 710  | 710  |                                 |
| P8  | 215  | 275  | 290  | 310  | 315  | 170  | 215  | 235  | 250  | 250  | 135  | 170  | 190  | 200  | 200  | Stainless steel and S-materials |
|     | 710  | 900  | 950  | 1025 | 1025 | 560  | 710  | 770  | 820  | 820  | 445  | 560  | 620  | 660  | 660  |                                 |
| P11 | 225  | 285  | 300  | 325  | 325  | 175  | 220  | 240  | 260  | 255  | 140  | 180  | 195  | 210  | 210  | Stainless steel and S-materials |
|     | 740  | 940  | 980  | 1075 | 1075 | 570  | 720  | 790  | 850  | 840  | 460  | 590  | 640  | 690  | 690  |                                 |
| P12 | 140  | 180  | 180  | 195  | 200  | 115  | 145  | 150  | 165  | 160  | 95   | 120  | 120  | 135  | 130  | Stainless steel and S-materials |
|     | 460  | 590  | 610  | 640  | 660  | 375  | 475  | 510  | 540  | 520  | 310  | 395  | 410  | 445  | 425  |                                 |
| M1  | 240  | 305  | 320  | 345  | 345  | 185  | 235  | 255  | 275  | 270  | 150  | 190  | 205  | 225  | 220  | Stainless steel and S-materials |
|     | 790  | 1000 | 1050 | 1125 | 1125 | 610  | 770  | 840  | 900  | 890  | 490  | 620  | 670  | 740  | 720  |                                 |
| M2  | 195  | 250  | 260  | 285  | 285  | 155  | 190  | 210  | 225  | 225  | 125  | 155  | 170  | 185  | 180  | Stainless steel and S-materials |
|     | 640  | 820  | 850  | 940  | 940  | 510  | 620  | 690  | 740  | 740  | 410  | 510  | 560  | 610  | 590  |                                 |
| M3  | 155  | 200  | 205  | 220  | 220  | 125  | 160  | 165  | 180  | 180  | 100  | 130  | 135  | 145  | 145  | Stainless steel and S-materials |
|     | 510  | 660  | 670  | 720  | 720  | 410  | 520  | 560  | 590  | 590  | 330  | 425  | 445  | 475  | 475  |                                 |
| M4  | 120  | 155  | 155  | 165  | 165  | 100  | 130  | 130  | 135  | 140  | 80   | 105  | 105  | 110  | 110  | Stainless steel and S-materials |
|     | 395  | 510  | 540  | 540  | 540  | 330  | 425  | 445  | 445  | 460  | 260  | 345  | 360  | 360  | 360  |                                 |
| M5  | 100  | 130  | 130  | 140  | 140  | 85   | 110  | 105  | 115  | 115  | 70   | 85   | 85   | 95   | 95   | Non ferrous                     |
|     | 330  | 425  | 460  | 460  | 460  | 280  | 360  | 375  | 375  | 375  | 230  | 280  | 295  | 310  | 310  |                                 |
| K1  | 235  | 300  | 315  | 340  | 340  | 180  | 230  | 250  | 270  | 270  | 145  | 185  | 205  | 220  | 215  | Non ferrous                     |
|     | 770  | 980  | 1025 | 1125 | 1125 | 590  | 750  | 820  | 890  | 890  | 475  | 610  | 670  | 720  | 710  |                                 |
| K2  | 205  | 265  | 275  | 300  | 300  | 160  | 200  | 220  | 240  | 235  | 130  | 165  | 180  | 195  | 190  | Non ferrous                     |
|     | 670  | 870  | 900  | 980  | 980  | 520  | 660  | 720  | 790  | 770  | 425  | 540  | 590  | 640  | 620  |                                 |
| K3  | 175  | 225  | 235  | 255  | 255  | 135  | 170  | 185  | 205  | 200  | 110  | 140  | 150  | 165  | 165  | Non ferrous                     |
|     | 570  | 740  | 770  | 840  | 840  | 445  | 560  | 610  | 670  | 660  | 360  | 460  | 490  | 540  | 540  |                                 |
| K4  | 165  | 215  | 225  | 240  | 240  | 130  | 165  | 180  | 195  | 190  | 105  | 130  | 145  | 155  | 155  | Non ferrous                     |
|     | 540  | 710  | 740  | 790  | 790  | 425  | 540  | 590  | 640  | 620  | 345  | 425  | 475  | 510  | 510  |                                 |
| K5  | 100  | 130  | 135  | 145  | 145  | 80   | 100  | 110  | 115  | 115  | 65   | 80   | 85   | 95   | 95   | Hard                            |
|     | 330  | 425  | 445  | 475  | 475  | 260  | 330  | 360  | 375  | 375  | 215  | 260  | 280  | 310  | 310  |                                 |
| K6  | 145  | 185  | 195  | 215  | 215  | 115  | 145  | 155  | 170  | 170  | 95   | 115  | 125  | 140  | 135  | Hard                            |
|     | 475  | 610  | 640  | 710  | 710  | 375  | 475  | 510  | 560  | 560  | 310  | 375  | 410  | 460  | 445  |                                 |
| K7  | 130  | 165  | 170  | 185  | 185  | 100  | 125  | 140  | 150  | 150  | 80   | 105  | 110  | 120  | 120  | Hard                            |
|     | 425  | 540  | 560  | 610  | 610  | 330  | 410  | 460  | 490  | 490  | 260  | 345  | 360  | 395  | 395  |                                 |
| N1  | 1825 | 2300 | 2425 | 2625 | 2600 | 1375 | 1725 | 1900 | 2025 | 2000 | 1100 | 1400 | 1525 | 1650 | 1625 | Graphite                        |
|     | 6000 | 7550 | 7950 | 8600 | 8525 | 4500 | 5650 | 6225 | 6650 | 6550 | 3600 | 4600 | 5000 | 5425 | 5325 |                                 |
| N2  | 730  | 930  | 980  | 1050 | 1050 | 550  | 690  | 760  | 820  | 810  | 450  | 560  | 620  | 660  | 660  | Graphite                        |
|     | 2400 | 3050 | 3225 | 3450 | 3450 | 1800 | 2275 | 2500 | 2700 | 2650 | 1475 | 1825 | 2025 | 2175 | 2175 |                                 |
| N3  | 490  | 620  | 650  | 710  | 700  | 370  | 465  | 510  | 550  | 540  | 300  | 375  | 410  | 440  | 440  | Graphite                        |
|     | 1600 | 2025 | 2125 | 2325 | 2300 | 1225 | 1525 | 1675 | 1800 | 1775 | 980  | 1225 | 1350 | 1450 | 1450 |                                 |
| N11 | 560  | 710  | 750  | 810  | 800  | 425  | 530  | 580  | 620  | 620  | 340  | 430  | 470  | 500  | 500  | Graphite                        |
|     | 1825 | 2325 | 2450 | 2650 | 2625 | 1400 | 1750 | 1900 | 2025 | 2025 | 1125 | 1400 | 1550 | 1650 | 1650 |                                 |
| S1  | 55   | 70   | 70   | 80   | 80   | 47   | 60   | 60   | 65   | 65   | 38   | 49   | 48   | 50   | 50   | X-Heads                         |
|     | 180  | 230  | 260  | 260  | 260  | 155  | 195  | 215  | 215  | 215  | 125  | 160  | 165  | 165  | 165  |                                 |
| S2  | 45   | 60   | 60   | 65   | 65   | 38   | 49   | 48   | 50   | 50   | 31   | 39   | 39   | 42   | 42   | X-Heads                         |
|     | 150  | 195  | 215  | 215  | 215  | 125  | 160  | 165  | 165  | 165  | 100  | 130  | 135  | 140  | 140  |                                 |
| S3  | 39   | 50   | 50   | 55   | 55   | 33   | 43   | 42   | 45   | 45   | 27   | 34   | 34   | 37   | 36   | X-Heads                         |
|     | 130  | 165  | 180  | 180  | 180  | 110  | 140  | 145  | 150  | 150  | 90   | 110  | 120  | 120  | 120  |                                 |
| S11 | 80   | 105  | 105  | 110  | 110  | 65   | 85   | 85   | 90   | 90   | 55   | 70   | 70   | 75   | 75   | X-Heads                         |
|     | 260  | 345  | 360  | 360  | 360  | 215  | 280  | 280  | 295  | 295  | 180  | 230  | 230  | 245  | 245  |                                 |
| S12 | 55   | 70   | 70   | 75   | 75   | 45   | 60   | 60   | 65   | 60   | 37   | 47   | 47   | 50   | 50   | X-Heads                         |
|     | 180  | 230  | 245  | 245  | 245  | 150  | 195  | 195  | 215  | 195  | 120  | 155  | 160  | 165  | 165  |                                 |
| S13 | 32   | 41   | 40   | 44   | 44   | 26   | 34   | 34   | 36   | 36   | 21   | 28   | 27   | 29   | 29   | X-Heads                         |
|     | 105  | 135  | 145  | 145  | 145  | 85   | 110  | 120  | 120  | 120  | 70   | 90   | 95   | 95   | 95   |                                 |
| H5  | 46   | 60   | 60   | 65   | 65   | 38   | 48   | 50   | 55   | 55   | 31   | 39   | 41   | 44   | 44   | Minimaster                      |
|     | 150  | 195  | 195  | 215  | 215  | 125  | 155  | 165  | 180  | 180  | 100  | 130  | 135  | 145  | 145  |                                 |
| H8  | 48   | 60   | 60   | 65   | 65   | 40   | 50   | 50   | 55   | 55   | 33   | 42   | 42   | 46   | 45   | Minimaster                      |
|     | 155  | 195  | 215  | 215  | 215  | 130  | 165  | 180  | 180  | 180  | 110  | 140  | 140  | 150  | 150  |                                 |
| H11 | 60   | 75   | 75   | 85   | 85   | 49   | 60   | 65   | 70   | 70   | 39   | 50   | 50   | 55   | 55   | Minimaster                      |
|     | 195  | 245  | 260  | 280  | 280  | 160  | 195  | 215  | 230  | 230  | 130  | 165  | 165  | 180  | 180  |                                 |
| H12 | 85   | 110  | 110  | 120  | 120  | 70   | 95   | 95   | 100  | 100  | 60   | 75   | 75   | 80   | 80   | Minimaster                      |
|     | 280  | 360  | 375  | 395  | 395  | 230  | 310  | 310  | 330  | 330  | 195  | 245  | 260  | 260  | 260  |                                 |
| H21 | 48   | 60   | 60   | 65   | 65   | 40   | 50   | 50   | 55   | 55   | 33   | 42   | 42   | 46   | 45   | Minimaster                      |
|     | 155  | 195  | 215  | 215  | 215  | 130  | 165  | 180  | 180  | 180  | 110  | 140  | 140  | 150  | 150  |                                 |

### MM12 High-Feed – Insert selection – mm/Inch

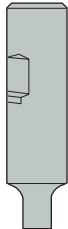
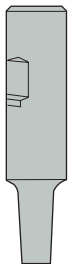
|                                 | SMG |                         | $a_p$          | $f_z$         |               |               |               |
|---------------------------------|-----|-------------------------|----------------|---------------|---------------|---------------|---------------|
|                                 |     |                         |                | 100%          | 70%           | 30%           | 20%           |
| Universal                       | P1  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,55<br>0.022 | 0,55<br>0.022 | 0,75<br>0.030 | 0,95<br>0.038 |
|                                 | P2  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,55<br>0.022 | 0,60<br>0.024 | 0,75<br>0.030 | 0,95<br>0.038 |
| Steel and cast iron             | P3  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,55<br>0.022 | 0,55<br>0.022 | 0,70<br>0.028 | 0,90<br>0.036 |
|                                 | P4  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,55<br>0.022 | 0,55<br>0.022 | 0,70<br>0.028 | 0,90<br>0.036 |
|                                 | P5  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,50<br>0.020 | 0,55<br>0.022 | 0,70<br>0.028 | 0,85<br>0.034 |
|                                 | P6  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,50<br>0.020 | 0,50<br>0.020 | 0,70<br>0.028 | 0,85<br>0.034 |
|                                 | P7  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,50<br>0.020 | 0,50<br>0.020 | 0,70<br>0.028 | 0,85<br>0.034 |
| Stainless steel and S-materials | P8  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,55<br>0.022 | 0,55<br>0.022 | 0,70<br>0.028 | 0,90<br>0.036 |
|                                 | P11 | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,50<br>0.020 | 0,50<br>0.020 | 0,70<br>0.028 | 0,85<br>0.034 |
|                                 | P12 | MM12-12.60-HF-MD10 F30M | 0,28<br>0.011  | 0,36<br>0.014 | 0,36<br>0.014 | 0,46<br>0.018 | 0,55<br>0.022 |
|                                 | M1  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,55<br>0.022 | 0,60<br>0.024 | 0,75<br>0.030 | 0,95<br>0.038 |
|                                 | M2  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,50<br>0.020 | 0,55<br>0.022 | 0,70<br>0.028 | 0,85<br>0.034 |
| Non ferrous                     | M3  | MM12-12.60-HF-MD10 F30M | 0,28<br>0.011  | 0,42<br>0.017 | 0,42<br>0.017 | 0,55<br>0.022 | 0,65<br>0.026 |
|                                 | M4  | MM12-12.60-HF-MD10 F30M | 0,22<br>0.0085 | 0,36<br>0.014 | 0,36<br>0.014 | 0,48<br>0.019 | 0,60<br>0.024 |
|                                 | M5  | MM12-12.60-HF-MD10 F30M | 0,22<br>0.0085 | 0,36<br>0.014 | 0,36<br>0.014 | 0,48<br>0.019 | 0,60<br>0.024 |
|                                 | K1  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,55<br>0.022 | 0,60<br>0.024 | 0,75<br>0.030 | 0,95<br>0.038 |
|                                 | K2  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,50<br>0.020 | 0,55<br>0.022 | 0,70<br>0.028 | 0,85<br>0.034 |
| Hard                            | K3  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,50<br>0.020 | 0,55<br>0.022 | 0,70<br>0.028 | 0,85<br>0.034 |
|                                 | K4  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,50<br>0.020 | 0,55<br>0.022 | 0,70<br>0.028 | 0,85<br>0.034 |
|                                 | K5  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,48<br>0.019 | 0,48<br>0.019 | 0,60<br>0.024 | 0,75<br>0.030 |
|                                 | K6  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,50<br>0.020 | 0,55<br>0.022 | 0,70<br>0.028 | 0,85<br>0.034 |
|                                 | K7  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,48<br>0.019 | 0,48<br>0.019 | 0,60<br>0.024 | 0,75<br>0.030 |
| Plastic and cfrp                | N1  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,75<br>0.030 | 0,75<br>0.030 | 1,0<br>0.040  | 1,3<br>0.050  |
|                                 | N2  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,75<br>0.030 | 0,75<br>0.030 | 1,0<br>0.040  | 1,3<br>0.050  |
|                                 | N3  | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,75<br>0.030 | 0,75<br>0.030 | 1,0<br>0.040  | 1,3<br>0.050  |
|                                 | N11 | MM12-12.60-HF-MD10 F30M | 0,36<br>0.014  | 0,75<br>0.030 | 0,75<br>0.030 | 1,0<br>0.040  | 1,3<br>0.050  |
|                                 | S1  | MM12-12.60-HF-MD10 F30M | 0,22<br>0.0085 | 0,36<br>0.014 | 0,36<br>0.014 | 0,48<br>0.019 | 0,60<br>0.024 |
| Graphite                        | S2  | MM12-12.60-HF-MD10 F30M | 0,22<br>0.0085 | 0,36<br>0.014 | 0,36<br>0.014 | 0,48<br>0.019 | 0,60<br>0.024 |
|                                 | S3  | MM12-12.60-HF-MD10 F30M | 0,22<br>0.0085 | 0,34<br>0.013 | 0,34<br>0.013 | 0,44<br>0.017 | 0,55<br>0.022 |
|                                 | S11 | MM12-12.60-HF-MD10 F30M | 0,25<br>0.010  | 0,42<br>0.017 | 0,42<br>0.017 | 0,55<br>0.022 | 0,65<br>0.026 |
|                                 | S12 | MM12-12.60-HF-MD10 F30M | 0,25<br>0.010  | 0,42<br>0.017 | 0,42<br>0.017 | 0,55<br>0.022 | 0,65<br>0.026 |
|                                 | S13 | MM12-12.60-HF-MD10 F30M | 0,22<br>0.0085 | 0,36<br>0.014 | 0,36<br>0.014 | 0,48<br>0.019 | 0,60<br>0.024 |
| X-Heads                         | H5  | MM12-12.60-HF-MD10 F15M | 0,28<br>0.011  | 0,36<br>0.014 | 0,36<br>0.014 | 0,46<br>0.018 | 0,55<br>0.022 |
|                                 | H8  | MM12-12.60-HF-MD10 F15M | 0,25<br>0.010  | 0,28<br>0.011 | 0,28<br>0.011 | 0,36<br>0.014 | 0,42<br>0.017 |
|                                 | H11 | MM12-12.60-HF-MD10 F15M | 0,28<br>0.011  | 0,36<br>0.014 | 0,36<br>0.014 | 0,46<br>0.018 | 0,55<br>0.022 |
|                                 | H12 | MM12-12.60-HF-MD10 F15M | 0,25<br>0.010  | 0,28<br>0.011 | 0,28<br>0.011 | 0,36<br>0.014 | 0,42<br>0.017 |
|                                 | H21 | MM12-12.60-HF-MD10 F15M | 0,25<br>0.010  | 0,28<br>0.011 | 0,28<br>0.011 | 0,36<br>0.014 | 0,42<br>0.017 |
| Minimaster                      |     |                         |                |               |               |               |               |

SMG = Seco material group  
 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %  
 All cutting data are start values

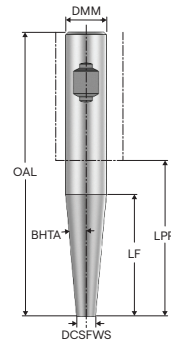
**MM12 High-Feed – Cutting data  $v_c = (m/min)/(sf/min)$** 

| SMG | F15M       |            |            |            | F30M       |            |            |            |                                 |
|-----|------------|------------|------------|------------|------------|------------|------------|------------|---------------------------------|
|     | 100%       | 70%        | 30%        | 20%        | 100%       | 70%        | 30%        | 20%        |                                 |
| P1  | —          | —          | —          | —          | 225        | 275        | 315        | 330        | Universal                       |
|     | —          | —          | —          | —          | 740        | 900        | 1025       | 1075       |                                 |
| P2  | —          | —          | —          | —          | 220        | 265        | 310        | 320        | Steel and cast iron             |
|     | —          | —          | —          | —          | 720        | 870        | 1025       | 1050       |                                 |
| P3  | —          | —          | —          | —          | 190        | 230        | 270        | 280        |                                 |
|     | —          | —          | —          | —          | 620        | 750        | 890        | 920        |                                 |
| P4  | —          | —          | —          | —          | 165        | 205        | 235        | 245        | Stainless steel and S-materials |
|     | —          | —          | —          | —          | 540        | 670        | 770        | 800        |                                 |
| P5  | —          | —          | —          | —          | 165        | 195        | 225        | 240        |                                 |
|     | —          | —          | —          | —          | 540        | 640        | 740        | 790        |                                 |
| P6  | —          | —          | —          | —          | 185        | 225        | 255        | 270        | Stainless steel and S-materials |
|     | —          | —          | —          | —          | 610        | 740        | 840        | 890        |                                 |
| P7  | —          | —          | —          | —          | 170        | 210        | 240        | 255        |                                 |
|     | —          | —          | —          | —          | 560        | 690        | 790        | 840        |                                 |
| P8  | —          | —          | —          | —          | 160        | 195        | 225        | 235        | Stainless steel and S-materials |
|     | —          | —          | —          | —          | 520        | 640        | 740        | 770        |                                 |
| P11 | —          | —          | —          | —          | 165        | 205        | 235        | 245        |                                 |
|     | —          | —          | —          | —          | 540        | 670        | 770        | 800        |                                 |
| P12 | —          | —          | —          | —          | 110        | 130        | 150        | 160        | Stainless steel and S-materials |
|     | —          | —          | —          | —          | 360        | 425        | 490        | 520        |                                 |
| M1  | —          | —          | —          | —          | 175        | 215        | 250        | 260        |                                 |
|     | —          | —          | —          | —          | 570        | 710        | 820        | 850        |                                 |
| M2  | —          | —          | —          | —          | 145        | 175        | 205        | 215        | Stainless steel and S-materials |
|     | —          | —          | —          | —          | 475        | 570        | 670        | 710        |                                 |
| M3  | —          | —          | —          | —          | 120        | 140        | 165        | 175        |                                 |
|     | —          | —          | —          | —          | 395        | 460        | 540        | 570        |                                 |
| M4  | —          | —          | —          | —          | 95         | 110        | 125        | 130        | Non ferrous                     |
|     | —          | —          | —          | —          | 310        | 360        | 410        | 425        |                                 |
| M5  | —          | —          | —          | —          | 80         | 90         | 105        | 110        |                                 |
|     | —          | —          | —          | —          | 260        | 295        | 345        | 360        |                                 |
| K1  | 185<br>610 | 225<br>740 | 260<br>850 | 275<br>900 | 175<br>570 | 210<br>690 | 245<br>800 | 255<br>840 | Non ferrous                     |
|     | 165<br>540 | 200<br>660 | 230<br>750 | 245<br>800 | 155<br>510 | 185<br>610 | 215<br>710 | 225<br>740 |                                 |
| K2  | 140<br>460 | 170<br>560 | 195<br>640 | 205<br>670 | 130<br>425 | 155<br>510 | 180<br>590 | 190<br>620 |                                 |
|     | 135<br>445 | 160<br>520 | 185<br>610 | 195<br>640 | 125<br>410 | 150<br>490 | 175<br>570 | 185<br>610 |                                 |
| K3  | 80<br>260  | 100<br>330 | 115<br>375 | 120<br>395 | 75<br>245  | 90<br>295  | 105<br>345 | 110<br>360 | Hard                            |
|     | 120<br>395 | 140<br>460 | 165<br>540 | 175<br>570 | 110<br>360 | 130<br>425 | 155<br>510 | 160<br>520 |                                 |
| K4  | 105<br>345 | 125<br>410 | 145<br>475 | 155<br>510 | 95<br>310  | 115<br>375 | 135<br>445 | 145<br>475 |                                 |
|     | —          | —          | —          | —          | —          | —          | —          | —          |                                 |
| N1  | —          | —          | —          | —          | 1275       | 1575       | 1800       | 1875       | Graphite                        |
|     | —          | —          | —          | —          | 4175       | 5175       | 5900       | 6150       |                                 |
| N2  | —          | —          | —          | —          | 520        | 630        | 730        | 750        |                                 |
|     | —          | —          | —          | —          | 1700       | 2075       | 2400       | 2450       |                                 |
| N3  | —          | —          | —          | —          | 345        | 420        | 485        | 500        | X-Heads                         |
|     | —          | —          | —          | —          | 1125       | 1375       | 1600       | 1650       |                                 |
| N11 | —          | —          | —          | —          | 395        | 480        | 550        | 570        |                                 |
|     | —          | —          | —          | —          | 1300       | 1575       | 1800       | 1875       |                                 |
| S1  | —          | —          | —          | —          | 44         | 50         | 60         | 60         | Minimaster                      |
|     | —          | —          | —          | —          | 145        | 165        | 195        | 195        |                                 |
| S2  | —          | —          | —          | —          | 35         | 41         | 47         | 50         |                                 |
|     | —          | —          | —          | —          | 115        | 135        | 155        | 165        |                                 |
| S3  | —          | —          | —          | —          | 31         | 36         | 42         | 44         | Minimaster                      |
|     | —          | —          | —          | —          | 100        | 120        | 140        | 145        |                                 |
| S11 | —          | —          | —          | —          | 60         | 70         | 85         | 90         |                                 |
|     | —          | —          | —          | —          | 195        | 230        | 280        | 295        |                                 |
| S12 | —          | —          | —          | —          | 42         | 50         | 55         | 60         | Minimaster                      |
|     | —          | —          | —          | —          | 140        | 165        | 180        | 195        |                                 |
| S13 | —          | —          | —          | —          | 25         | 29         | 33         | 35         |                                 |
|     | —          | —          | —          | —          | 80         | 95         | 110        | 115        |                                 |
| H5  | 39<br>130  | 46<br>150  | 55<br>180  | 55<br>180  | 36<br>120  | 43<br>140  | 50<br>165  | 55<br>180  | Minimaster                      |
|     | 41<br>135  | 49<br>160  | 55<br>180  | 60<br>195  | 38<br>125  | 45<br>150  | 50<br>165  | 55<br>180  |                                 |
| H8  | 49<br>160  | 60<br>195  | 70<br>230  | 70<br>230  | 46<br>150  | 55<br>180  | 65<br>215  | 65<br>215  |                                 |
|     | 75<br>245  | 90<br>295  | 100<br>330 | 105<br>345 | 70<br>230  | 80<br>260  | 95<br>310  | 100<br>330 |                                 |
| H11 | 41<br>135  | 49<br>160  | 55<br>180  | 60<br>195  | 38<br>125  | 45<br>150  | 50<br>165  | 55<br>180  | Minimaster                      |
|     | —          | —          | —          | —          | —          | —          | —          | —          |                                 |
| H12 | —          | —          | —          | —          | —          | —          | —          | —          |                                 |
|     | —          | —          | —          | —          | —          | —          | —          | —          |                                 |
| H21 | —          | —          | —          | —          | —          | —          | —          | —          | Minimaster                      |
|     | —          | —          | —          | —          | —          | —          | —          | —          |                                 |
|     | —          | —          | —          | —          | —          | —          | —          | —          |                                 |
|     | —          | —          | —          | —          | —          | —          | —          | —          |                                 |

## Shank design

| Universal<br>Steel and cast<br>iron<br>Stainless steel<br>and S-materials<br>Non ferrous<br>Hard<br>Plastic and cfrp<br>Graphite<br>X-Heads | Design 1, Keyway shank                                                              | Design 2, Cylindrical/Weldon back end and 90° front                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                                                                                                                                             |    |   |
|                                                                                                                                             | Design 3, Cylindrical/Weldon back end tapered front 87°/89°                         | Design 4, Cylindrical/Weldon back end tapered front 80°/85°/87°                      |
|                                                                                                                                             |   |  |
|                                                                                                                                             | Design 5, Cylindrical back end double tapered front end 89°/85°                     |                                                                                      |
|                                                                                                                                             |  |                                                                                      |

MM16 Shank – Metric



| Designation         | Item number | DCSFWS | DMM  | LF   | LPR   | OAL   | BHTA° | Design | CSP | RPMX  | Shank                | Weight | Spare part no. |
|---------------------|-------------|--------|------|------|-------|-------|-------|--------|-----|-------|----------------------|--------|----------------|
|                     |             | mm     | mm   | mm   | mm    | mm    |       |        |     |       |                      | kg     |                |
| MM16-16070.0-0011M  | 00023547    | 15,2   | 16,0 | 11,3 | 22,0  | 70,0  | 0,0   | 2      | ■   | 63600 | Cylindrical          | 0,1    | 1              |
| MM16-16150.0-0080DS | 02580692    | 15,2   | 16,0 | 80,0 | 102,0 | 150,0 | 0,0   | 2      | ■   | 47600 | Cylindrical Densimet | 0,4    | 2              |
| MM16-20115.3-3045   | 75014109    | 15,2   | 20,0 | 45,8 | 65,0  | 115,0 | 3,0   | 4      | ■   | 63600 | Weldon               | 0,2    | 3              |
| MM16-20070.0-0000   | 00023548    | 15,2   | 20,0 | 0,0  | 20,0  | 70,0  | 60,0  | 1      | ■   | 63600 | Cylindrical          | 0,2    | 1              |
| MM16-20190.0-1055M  | 00094766    | 15,2   | 20,0 | 55,0 | 140,0 | 190,0 | 1,0   | 3      | ■   | 63600 | Cylindrical          | 0,4    | 5              |
| MM16-20190.0-1075M  | 00094768    | 15,2   | 20,0 | 75,0 | 140,0 | 190,0 | 1,0   | 3      | ■   | 63600 | Cylindrical          | 0,4    | 5              |
| MM16-20190.0-1095M  | 00094770    | 15,2   | 20,0 | 95,0 | 140,0 | 190,0 | 1,0   | 3      | ■   | 63600 | Cylindrical          | 0,4    | 6              |
| MM16-20080.0-0011DS | 02580669    | 15,2   | 20,0 | 11,3 | 30,0  | 80,0  | 0,0   | 2      | ■   | 47600 | Cylindrical Densimet | 0,3    | 2              |
| MM16-20150.0-0038DS | 02580695    | 15,2   | 20,0 | 38,0 | 100,0 | 150,0 | 0,0   | 2      | ■   | 47600 | Cylindrical Densimet | 0,6    | 2              |
| MM16-20160.0-0076DS | 02580699    | 15,2   | 20,0 | 76,0 | 110,0 | 160,0 | 0,0   | 2      | ■   | 47600 | Cylindrical Densimet | 0,6    | 2              |
| MM16-20130.0-1045DS | 02580757    | 15,2   | 20,0 | 45,0 | 80,0  | 130,0 | 1,0   | 3      | ■   | 47600 | Cylindrical Densimet | 0,5    | 2              |
| MM16-20190.0-1075DS | 02580758    | 15,2   | 20,0 | 75,0 | 140,0 | 190,0 | 1,0   | 3      | ■   | 47600 | Cylindrical Densimet | 0,8    | 2              |
| MM16-20190.0-1095DS | 02580760    | 15,2   | 20,0 | 95,0 | 140,0 | 190,0 | 1,0   | 3      | ■   | 47600 | Cylindrical Densimet | 0,8    | 2              |
| MM16-25100.3-0019   | 75012790    | 15,2   | 25,0 | 19,0 | 40,0  | 100,0 | 0,0   | 2      | ■   | 63600 | Weldon               | 0,3    | 3              |
| MM16-25115.3-3035   | 75012791    | 15,2   | 25,0 | 35,0 | 59,0  | 115,0 | 3,0   | 3      | ■   | 63600 | Weldon               | 0,3    | 3              |
| MM16-25170.3-5056   | 75012792    | 15,2   | 25,0 | 56,0 | 114,0 | 170,0 | 5,0   | 4      | ■   | 63600 | Weldon               | 0,6    | 4              |
| MM16-25170.0-1060   | 00094767    | 19,0   | 25,0 | 60,0 | 114,0 | 170,0 | 1,0   | 3      | ■   | 63600 | Cylindrical          | 0,5    | 5              |
| MM16-25250.0-1075DS | 02580761    | 15,2   | 25,0 | 75,0 | 194,0 | 250,0 | 1,0   | 5      | ■   | 47600 | Cylindrical Densimet | 1,5    | 2              |
| MM16-32250.0-10047  | 75069368    | 15,2   | 32,0 | 47,6 | 190,0 | 250,0 | 10,0  | 4      | ■   | 63600 | Cylindrical          | 1,3    | 4              |

Spare Parts, included in delivery

| For cutter | Sleeve                                                                              | Tension screw                                                                       |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|            |  |  |
| 1          | MM-10030                                                                            | MM16-1045                                                                           |
| 2          | –                                                                                   | MM16-1045                                                                           |
| 3          | MM-10062                                                                            | MM16-1045                                                                           |
| 4          | MM-10132                                                                            | MM16-1045                                                                           |
| 5          | MM-10062                                                                            | MM16-1093                                                                           |
| 6          | MM-10062                                                                            | MM16-10113                                                                          |

Allen key H05-4 for sleeve to be ordered separately.  
For wrench types, see insert pages

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

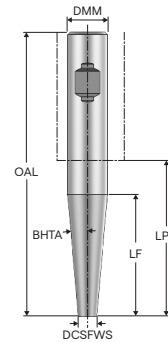
Hard

Graphite

X-Heads

Minimaster

#### MM16 Shank – Inch



| Designation            | Item number | DCSFWS | DMM   | LF    | LPR   | OAL   | BHTA° | Design | CSP | RPMX  | Shank                | Weight | Spare part no. |
|------------------------|-------------|--------|-------|-------|-------|-------|-------|--------|-----|-------|----------------------|--------|----------------|
|                        |             | inch   | inch  | inch  | inch  | inch  |       |        |     |       |                      | lbs    |                |
| MM16-0.62-2.8-0M-0004  | 00037209    | 0.598  | 0.625 | 0.445 | 0.866 | 2.756 | 0,0   | 2      | ■   | 63600 | Cylindrical          | 0.220  | 1              |
| MM16-0.75-4.5-3-3018   | 75054603    | 0.598  | 0.750 | 1.445 | 2.559 | 4.528 | 3,0   | 3      | ■   | 63600 | Weldon               | 0.440  | 4              |
| MM16-0.75-2.8-0-0000   | 00037175    | 0.598  | 0.750 | 0     | 0.787 | 2.756 | 60,0  | 1      | ■   | 63600 | Cylindrical          | 0.440  | 1              |
| MM16-0.75-7.5-0-1021   | 75054731    | 0.598  | 0.750 | 2.165 | 5.512 | 7.480 | 1,0   | 3      | ■   | 63600 | Cylindrical          | 0.660  | 6              |
| MM16-0.75-7.5-0-1037   | 75054733    | 0.598  | 0.750 | 3.740 | 5.512 | 7.480 | 1,0   | 3      | ■   | 63600 | Cylindrical          | 0.880  | 7              |
| MM16-0.75-7.5-0-1029DS | 02567719    | 0.598  | 0.750 | 2.953 | 5.512 | 7.480 | 1,0   | 3      | ■   | 47600 | Cylindrical Densimet | 1.760  | 3              |
| MM16-0.75-7.5-0-1037DS | 02593431    | 0.598  | 0.750 | 3.740 | 5.512 | 7.480 | 1,0   | 3      | ■   | 47600 | Cylindrical Densimet | 1.540  | 3              |
| MM16-1.00-3.9-3-0007   | 75015058    | 0.598  | 1.000 | 0.748 | 1.732 | 3.937 | 0,0   | 2      | ■   | 63600 | Weldon               | 0.660  | 4              |
| MM16-1.00-4.5-3-3013   | 75015059    | 0.598  | 1.000 | 1.378 | 2.323 | 4.528 | 3,0   | 3      | ■   | 63600 | Weldon               | 0.880  | 4              |
| MM16-1.00-6.7-3-5022   | 75015060    | 0.598  | 1.000 | 2.295 | 4.488 | 6.693 | 5,0   | 4      | ■   | 63600 | Weldon               | 1.320  | 5              |
| MM16-1.00-5.9-0-0015DS | 02593433    | 0.598  | 1.000 | 1.496 | 3.701 | 5.906 | 0,0   | 2      | ■   | 47600 | Cylindrical Densimet | 2.200  | 3              |
| MM16-1.00-6.3-0-0030DS | 02593434    | 0.598  | 1.000 | 2.992 | 4.094 | 6.299 | 0,0   | 2      | ■   | 47600 | Cylindrical Densimet | 1.980  | 3              |

#### Spare Parts, included in delivery

| For cutter | Sleeve                                                                              | Tension screw                                                                       |
|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|            |  |  |
| 1          | MM-10030                                                                            | MM16-1045                                                                           |
| 3          | -                                                                                   | MM16-1045                                                                           |
| 4          | MM-10062                                                                            | MM16-1045                                                                           |
| 5          | MM-10132                                                                            | MM16-1045                                                                           |
| 6          | MM-10062                                                                            | MM16-1093                                                                           |
| 7          | MM-10062                                                                            | MM16-10113                                                                          |

Allen key H05-4 for sleeve to be ordered separately.  
For wrench types, see insert pages



#### Slot milling/square shoulder milling



—For Torque keys and torque values, see page 799

| Designation           |                 |                |              |                |       |       |       |      |      |        |                                                                                     | Grades |      |      |      |
|-----------------------|-----------------|----------------|--------------|----------------|-------|-------|-------|------|------|--------|-------------------------------------------------------------------------------------|--------|------|------|------|
|                       | DC              | APMXS          | RE           | LF             | RMPX° | C min | C max | FHA° | ZEFP | Wrench |  | Coated |      |      |      |
|                       | mm<br>Inch      | mm<br>Inch     | mm<br>Inch   | mm<br>Inch     |       |       |       |      |      |        |                                                                                     | T60M   | F15M | F30M | F40M |
| MM16-15719-R03A30-M06 | 15,7<br>0.618   | 19,05<br>0.750 | 0,3<br>0.012 | 24,5<br>0.965  | 15,0  | 19,0  | 30,6  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM16-15919-R08A30-M06 | 15,875<br>0.625 | 19,05<br>0.750 | 0,8<br>0.031 | 24,5<br>0.965  | 15,0  | 19,2  | 29,9  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM16-16019-A30-E06    | 16,0<br>0.630   | 19,05<br>0.750 | —            | 24,5<br>0.965  | 15,0  | 19,4  | 31,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM16-16019-R05A30-M06 | 16,0<br>0.630   | 19,05<br>0.750 | 0,5<br>0.020 | 24,5<br>0.965  | 15,0  | 19,4  | 30,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM16-16019-R10A30-E06 | 16,0<br>0.630   | 19,05<br>0.750 | 1,0<br>0.039 | 24,5<br>0.965  | 15,0  | 19,4  | 29,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM16-16019-R10A30-M06 | 16,0<br>0.630   | 19,05<br>0.750 | 1,0<br>0.039 | 24,5<br>0.965  | 15,0  | 19,4  | 29,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM16-16019-R20A30-M06 | 16,0<br>0.630   | 19,05<br>0.750 | 2,0<br>0.079 | 24,5<br>0.965  | 15,0  | 19,4  | 27,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM16-16019-R30A30-E06 | 16,0<br>0.630   | 19,05<br>0.750 | 3,0<br>0.118 | 24,5<br>0.965  | 15,0  | 19,4  | 25,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM16-16019-R30A30-M06 | 16,0<br>0.630   | 19,05<br>0.750 | 3,0<br>0.118 | 24,5<br>0.965  | 15,0  | 19,4  | 25,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM16-16019-R40A30-M06 | 16,0<br>0.630   | 19,05<br>0.750 | 4,0<br>0.157 | 24,5<br>0.965  | 15,0  | 19,4  | 23,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM16-16019-R50A30-M06 | 16,0<br>0.630   | 19,05<br>0.750 | 5,0<br>0.197 | 24,5<br>0.965  | 15,0  | 19,4  | 21,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM16-16019-R60A30-M06 | 16,0<br>0.630   | 19,05<br>0.750 | 6,0<br>0.236 | 24,5<br>0.965  | 15,0  | 19,4  | 19,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM16-20015-A30-E06    | 20,0<br>0.787   | 15,0<br>0.591  | —            | 20,15<br>0.793 | 15,0  | 24,2  | 39,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM16-20015-R05A30-M06 | 20,0<br>0.787   | 15,0<br>0.591  | 0,5<br>0.020 | 20,15<br>0.793 | 15,0  | 24,2  | 38,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM16-20015-R10A30-M06 | 20,0<br>0.787   | 15,0<br>0.591  | 1,0<br>0.039 | 20,15<br>0.793 | 15,0  | 24,2  | 37,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM16-20015-R20A30-D06 | 20,0<br>0.787   | 15,0<br>0.591  | 2,0<br>0.079 | 20,15<br>0.793 | 15,0  | 24,2  | 35,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      | ■    |      |
| MM16-20015-R30A30-M06 | 20,0<br>0.787   | 15,0<br>0.591  | 3,0<br>0.118 | 20,15<br>0.793 | 15,0  | 24,2  | 33,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |
| MM16-20015-R50A30-M06 | 20,0<br>0.787   | 15,0<br>0.591  | 5,0<br>0.197 | 20,15<br>0.793 | 15,0  | 24,2  | 29,8  | 30   | 3    | MM0416 | ✓                                                                                   |        |      |      | ■    |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

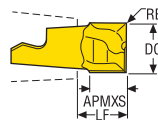
Hard

Graphite

X-Heads

Minimaster

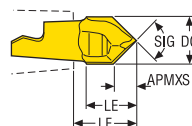
#### Slot milling/square shoulder milling



—For Torque keys and torque values, see page 799

| Designation          | DC             | APMXS         | RE           | LF             | RMPX° | C min | C max | FHA° | ZEFP | Wrench | Grades |      |      |      |
|----------------------|----------------|---------------|--------------|----------------|-------|-------|-------|------|------|--------|--------|------|------|------|
|                      |                |               |              |                |       |       |       |      |      |        | Coated |      |      |      |
|                      |                |               |              |                |       |       |       |      |      |        | T60M   | F15M | F30M | F40M |
|                      | mm<br>Inch     | mm<br>Inch    | mm<br>Inch   | mm<br>Inch     |       |       |       |      |      |        |        |      |      |      |
| MM16-15711T-R03-D07  | 15,7<br>0.618  | 11,0<br>0.433 | 0,3<br>0.012 | 13,6<br>0.535  | 15,0  | 19,0  | 30,6  | 0    | 2    | MM1420 | ■      |      |      |      |
| MM16-16011-M06       | 16,0<br>0.630  | 11,0<br>0.433 | —            | 13,6<br>0.535  | 15,0  | 19,4  | 31,8  | 0    | 2    | MM1420 | ■      |      |      |      |
| MM16-16011-R08A8-E06 | 16,0<br>0.630  | 10,5<br>0.413 | 0,8<br>0.031 | 13,62<br>0.536 | 15,0  | 19,4  | 30,2  | 8    | 2    | MM1420 | ■      |      | ■    |      |
| MM16-16011-R08-MD07  | 16,0<br>0.630  | 11,0<br>0.433 | 0,8<br>0.031 | 13,58<br>0.535 | 15,0  | 19,4  | 30,2  | 0    | 2    | MM1420 | ■      |      | ■    |      |
| MM16-16011-R08P-M05  | 16,0<br>0.630  | 10,8<br>0.425 | 0,8<br>0.031 | 13,41<br>0.528 | 15,0  | 19,4  | 30,2  | 0    | 2    | MM1420 |        |      | ■    |      |
| MM16-16011-R20-MD07  | 16,0<br>0.630  | 10,9<br>0.429 | 2,0<br>0.079 | 13,55<br>0.533 | 15,0  | 19,4  | 27,8  | 0    | 2    | MM1420 |        |      | ■    |      |
| MM16-16011-R30-MD07  | 16,0<br>0.630  | 10,9<br>0.429 | 3,0<br>0.118 | 13,54<br>0.533 | 15,0  | 19,4  | 25,8  | 0    | 2    | MM1420 |        |      | ■    |      |
| MM16-16011-R40-MD07  | 16,0<br>0.630  | 10,9<br>0.429 | 4,0<br>0.157 | 13,52<br>0.532 | 15,0  | 19,4  | 23,8  | 0    | 2    | MM1420 | ■      |      |      |      |
| MM16-16011-R50-MD07  | 16,0<br>0.630  | 10,9<br>0.429 | 5,0<br>0.197 | 13,5<br>0.531  | 15,0  | 19,4  | 21,8  | 0    | 2    | MM1420 | ■      |      |      |      |
| MM16-19013-R08A8-E06 | 19,05<br>0.750 | 12,7<br>0.500 | 0,8<br>0.031 | 15,39<br>0.606 | 15,0  | 23,1  | 36,3  | 8    | 2    | MM1420 |        |      | ■    |      |
| MM16-20013-R08A8-E06 | 20,0<br>0.787  | 12,7<br>0.500 | 0,8<br>0.031 | 15,42<br>0.607 | 15,0  | 24,2  | 38,2  | 8    | 2    | MM1420 | ■      |      | ■    |      |

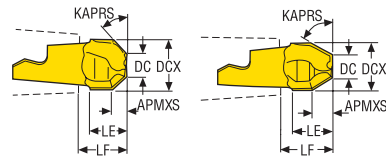
#### Centre drilling



—For Torque keys and torque values, see page 799

| Designation         | DC             | APMXS         | RE         | LF             | SIG°  | ZEFP | Wrench | Grades |      |      |      |
|---------------------|----------------|---------------|------------|----------------|-------|------|--------|--------|------|------|------|
|                     |                |               |            |                |       |      |        | Coated |      |      |      |
|                     | mm<br>Inch     | mm<br>Inch    | mm<br>Inch | mm<br>Inch     |       |      |        | T60M   | F15M | F30M | F40M |
| MM16-16008-C90-M06  | 16,0<br>0.630  | 7,53<br>0.296 | —          | 19,2<br>0.756  | 90,0  | 2    | MM1420 | ■      |      |      |      |
| MM16-16011-C120-M06 | 16,0<br>0.630  | 4,3<br>0.169  | —          | 18,9<br>0.744  | 120,0 | 2    | MM1420 | ■      |      |      |      |
| MM16-19019-C90      | 19,05<br>0.750 | 9,6<br>0.378  | —          | 22,15<br>0.872 | 90,0  | 2    | MM1420 | ■      |      |      |      |

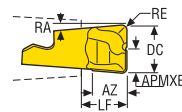
## Chamfering



—For Torque keys and torque values, see page 799

| Designation         |               |               |              |              |               |                |        |      |        |   | Grades |      |      |      |
|---------------------|---------------|---------------|--------------|--------------|---------------|----------------|--------|------|--------|---|--------|------|------|------|
|                     | DCX           | DC            | APMXS        | RE           | LE            | LF             | KAPRS° | ZEFP | Wrench |   | Coated |      |      |      |
|                     | mm<br>Inch    | mm<br>Inch    | mm<br>Inch   | mm<br>Inch   | mm<br>Inch    | mm<br>Inch     |        |      |        |   | T60M   | F15M | F30M | F40M |
| MM16-16011-4540-E06 | 16,0<br>0.630 | 7,69<br>0.303 | 3,9<br>0.154 | 0,4<br>0.016 | 10,9<br>0.429 | 13,25<br>0.522 | 45,0   | 2    | MM1420 | ■ |        |      |      |      |
| MM16-16012-6060-E06 | 16,0<br>0.630 | 8,38<br>0.330 | 6,7<br>0.264 | 0,5<br>0.020 | 12,9<br>0.508 | 15,3<br>0.602  | 60,0   | 2    | MM1420 | ■ |        |      |      |      |

## Plunge milling



—For Torque keys and torque values, see page 799

| Designation            |               |              |              |               |               |     |      |        |  |  | Grades |      |      |      |
|------------------------|---------------|--------------|--------------|---------------|---------------|-----|------|--------|--|--|--------|------|------|------|
|                        | DC            | APMXE        | RE           | AZ            | LF            | RA° | ZEFP | Wrench |  |  | Coated |      |      |      |
|                        | mm<br>Inch    | mm<br>Inch   | mm<br>Inch   | mm<br>Inch    | mm<br>Inch    |     |      |        |  |  | T60M   | F15M | F30M | F40M |
| MM16-16011-R10-PL-MD07 | 16,0<br>0.630 | 8,0<br>0.315 | 1,0<br>0.039 | 11,3<br>0.445 | 11,3<br>0.445 | 5,0 | 2    | MM1420 |  |  |        |      | ■    |      |
| MM16-16011-R20-PL-MD07 | 16,0<br>0.630 | 8,0<br>0.315 | 2,0<br>0.079 | 11,3<br>0.445 | 11,3<br>0.445 | 5,0 | 2    | MM1420 |  |  |        |      | ■    |      |

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Stainless steel  
and S-materials

Non ferrous

Hard

Graphite

X-Heads

Minimaster

Precision inserts for semi-finishing in all materials



—For Torque keys and torque values, see page 799

| Designation           | DC            | APMXS         | RE            | LE            | DN            | LF             | SA°   | ZEFP | Wrench | Grades |      |      |      |
|-----------------------|---------------|---------------|---------------|---------------|---------------|----------------|-------|------|--------|--------|------|------|------|
|                       |               |               |               |               |               |                |       |      |        | Coated |      |      |      |
|                       |               |               |               |               |               |                |       |      |        | T60M   | F15M | F30M | F40M |
| MM16-20020-B120PF-M04 | 20,0<br>0.787 | 10,0<br>0.394 | 10,0<br>0.394 | 20,0<br>0.787 | 15,9<br>0.626 | 21,94<br>0.864 | 254,0 | 2    | MM1420 |        | ■    |      |      |
| MM16-20020-B120P-M07  | 20,0<br>0.787 | 10,0<br>0.394 | 10,0<br>0.394 | 20,0<br>0.787 | 15,9<br>0.626 | 21,94<br>0.864 | 254,0 | 2    | MM1420 |        |      | ■    |      |

Copy milling



—For Torque keys and torque values, see page 799

| Designation           | DC              | APMXS         | RE             | LF             | FHA° | ZEFP | Wrench |  | Grades |      |      |      |
|-----------------------|-----------------|---------------|----------------|----------------|------|------|--------|--------------------------------------------------------------------------------------|--------|------|------|------|
|                       |                 |               |                |                |      |      |        |                                                                                      | Coated |      |      |      |
|                       |                 |               |                |                |      |      |        |                                                                                      | T60M   | F15M | F30M | F40M |
| MM16-15916-B90P-M07   | 15,875<br>0.625 | 13,8<br>0.543 | 7,938<br>0.313 | 18,4<br>0.724  |      | 2    | MM1420 |                                                                                      |        |      | ■    |      |
| MM16-16016-B90-MD07   | 16,0<br>0.630   | 16,2<br>0.638 | 8,0<br>0.315   | 18,4<br>0.724  |      | 2    | MM1420 |                                                                                      | ■      |      | ■    |      |
| MM16-16016-B90PF-M03  | 16,0<br>0.630   | 13,8<br>0.543 | 8,0<br>0.315   | 18,4<br>0.724  |      | 2    | MM1420 |                                                                                      |        | ■    |      |      |
| MM16-16016-B90P-M07   | 16,0<br>0.630   | 13,8<br>0.543 | 8,0<br>0.315   | 18,4<br>0.724  |      | 2    | MM1420 |                                                                                      |        |      | ■    |      |
| MM16-16019-B90A30-E06 | 16,0<br>0.630   | 19,0<br>0.748 | 8,0<br>0.315   | 24,5<br>0.965  | 30,0 | 3    | MM0416 | ✓                                                                                    |        |      | ■    |      |
| MM16-16019-B90A30-M06 | 16,0<br>0.630   | 19,0<br>0.748 | 8,0<br>0.315   | 24,5<br>0.965  | 30,0 | 3    | MM0416 | ✓                                                                                    |        |      |      | ■    |
| MM16-19020-B90P-M07   | 19,05<br>0.750  | 17,4<br>0.685 | 9,525<br>0.375 | 22,12<br>0.871 |      | 2    | MM1420 |                                                                                      | ■      |      |      |      |
| MM16-20015-B90A30-E06 | 20,0<br>0.787   | 15,0<br>0.591 | 10,0<br>0.394  | 20,15<br>0.793 | 30,0 | 3    | MM0416 | ✓                                                                                    |        |      | ■    |      |
| MM16-20015-B90A30-M06 | 20,0<br>0.787   | 15,0<br>0.591 | 10,0<br>0.394  | 20,15<br>0.793 | 30,0 | 3    | MM0416 | ✓                                                                                    |        |      |      | ■    |
| MM16-20020-B90-MD07   | 20,0<br>0.787   | 20,3<br>0.799 | 10,0<br>0.394  | 22,15<br>0.872 |      | 2    | MM1420 |                                                                                      | ■      |      | ■    |      |
| MM16-20020-B90P-M07   | 20,0<br>0.787   | 17,4<br>0.685 | 10,0<br>0.394  | 22,12<br>0.871 |      | 2    | MM1420 |                                                                                      |        |      | ■    |      |

**MM16 – Slot and Side milling – Insert selection – mm/Inch**

| SMG |                            | $a_p$        | $f_z$           |                 |                 |                 |
|-----|----------------------------|--------------|-----------------|-----------------|-----------------|-----------------|
|     |                            |              | 100%            | 40%             | 20%             | 10%             |
| P1  | MM16-16019-R05A30-M06 F40M | 3,5<br>0.14  | 0,085<br>0.0034 | 0,085<br>0.0034 | 0,11<br>0.0044  | 0,14<br>0.0055  |
| P2  | MM16-16019-R05A30-M06 F40M | 3,5<br>0.14  | 0,085<br>0.0034 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,14<br>0.0055  |
| P3  | MM16-16019-R05A30-M06 F40M | 3,5<br>0.14  | 0,080<br>0.0032 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,14<br>0.0055  |
| P4  | MM16-16019-R05A30-M06 F40M | 3,5<br>0.14  | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  |
| P5  | MM16-16019-R05A30-M06 F40M | 3,5<br>0.14  | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  |
| P6  | MM16-16019-R05A30-M06 F40M | 3,5<br>0.14  | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050  |
| P7  | MM16-16019-R05A30-M06 F40M | 3,5<br>0.14  | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050  |
| P8  | MM16-16019-R05A30-M06 F40M | 3,5<br>0.14  | 0,080<br>0.0032 | 0,085<br>0.0034 | 0,10<br>0.0040  | 0,14<br>0.0055  |
| P11 | MM16-16019-R05A30-M06 F40M | 3,5<br>0.14  | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,13<br>0.0050  |
| P12 | MM16-16019-R05A30-M06 F40M | 2,5<br>0.10  | 0,055<br>0.0022 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 |
| M1  | MM16-16019-R05A30-M06 F40M | 3,5<br>0.14  | 0,085<br>0.0034 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,14<br>0.0055  |
| M2  | MM16-16019-R05A30-M06 F40M | 3,5<br>0.14  | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  |
| M3  | MM16-16019-R05A30-M06 F40M | 2,5<br>0.10  | 0,065<br>0.0026 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  |
| M4  | MM16-16019-R05A30-M06 F40M | 2,0<br>0.080 | 0,055<br>0.0022 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,090<br>0.0036 |
| M5  | MM16-16019-R05A30-M06 F40M | 2,0<br>0.080 | 0,055<br>0.0022 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,090<br>0.0036 |
| K1  | MM16-16019-R10A30-E06 F30M | 3,5<br>0.14  | 0,090<br>0.0036 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,14<br>0.0055  |
| K2  | MM16-16019-R10A30-E06 F30M | 3,5<br>0.14  | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  |
| K3  | MM16-16019-R10A30-E06 F30M | 3,5<br>0.14  | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  |
| K4  | MM16-16019-R10A30-E06 F30M | 3,5<br>0.14  | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  |
| K5  | MM16-16019-R10A30-M06 F40M | 3,5<br>0.14  | 0,075<br>0.0030 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,12<br>0.0048  |
| K6  | MM16-16019-R10A30-M06 F40M | 3,5<br>0.14  | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,10<br>0.0040  | 0,13<br>0.0050  |
| K7  | MM16-16019-R10A30-M06 F40M | 3,5<br>0.14  | 0,075<br>0.0030 | 0,075<br>0.0030 | 0,090<br>0.0036 | 0,12<br>0.0048  |
| N1  | MM16-16019-R10A30-E06 F30M | 3,5<br>0.14  | 0,11<br>0.0044  | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,18<br>0.0070  |
| N2  | MM16-16019-R10A30-E06 F30M | 3,5<br>0.14  | 0,11<br>0.0044  | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,18<br>0.0070  |
| N3  | MM16-16019-R10A30-E06 F30M | 3,5<br>0.14  | 0,11<br>0.0044  | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,18<br>0.0070  |
| N11 | MM16-16019-R10A30-E06 F30M | 3,5<br>0.14  | 0,11<br>0.0044  | 0,11<br>0.0044  | 0,14<br>0.0055  | 0,18<br>0.0070  |
| S1  | MM16-16019-R05A30-M06 F40M | 2,0<br>0.080 | 0,055<br>0.0022 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,090<br>0.0036 |
| S2  | MM16-16019-R05A30-M06 F40M | 2,0<br>0.080 | 0,055<br>0.0022 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,090<br>0.0036 |
| S3  | MM16-16019-R05A30-M06 F40M | 2,0<br>0.080 | 0,050<br>0.0020 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,085<br>0.0034 |
| S11 | MM16-16019-R05A30-M06 F40M | 2,5<br>0.10  | 0,065<br>0.0026 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  |
| S12 | MM16-16019-R05A30-M06 F40M | 2,5<br>0.10  | 0,065<br>0.0026 | 0,065<br>0.0026 | 0,080<br>0.0032 | 0,10<br>0.0040  |
| S13 | MM16-16019-R05A30-M06 F40M | 2,0<br>0.080 | 0,055<br>0.0022 | 0,055<br>0.0022 | 0,070<br>0.0028 | 0,090<br>0.0036 |
| H5  | MM16-16019-R10A30-E06 F30M | 2,5<br>0.10  | 0,055<br>0.0022 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 |
| H8  | MM16-16019-R10A30-E06 F30M | 2,5<br>0.10  | 0,044<br>0.0017 | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,070<br>0.0028 |
| H11 | MM16-16019-R10A30-E06 F30M | 2,5<br>0.10  | 0,055<br>0.0022 | 0,055<br>0.0022 | 0,065<br>0.0026 | 0,090<br>0.0036 |
| H12 | MM16-16019-R10A30-E06 F30M | 2,5<br>0.10  | 0,044<br>0.0017 | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,070<br>0.0028 |
| H21 | MM16-16019-R10A30-E06 F30M | 2,5<br>0.10  | 0,044<br>0.0017 | 0,044<br>0.0017 | 0,050<br>0.0020 | 0,070<br>0.0028 |

SMG = Seco material group

 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e/DC$  = %

All cutting data are start values

Universal

 Steel and cast  
iron

 Stainless steel  
and S-materials

 Stainless steel  
and S-materials

Non ferrous

Hard

Graphite

X-Heads

Minimaster

MM16 – Slot and Side milling – Cutting data  $v_c = (m/min)/(sf/min)$ 

|                                 | SMG | F30M |      |      |      | F40M |      |      |      | T60M |      |      |      |
|---------------------------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|
|                                 |     | 100% | 40%  | 20%  | 10%  | 100% | 40%  | 20%  | 10%  | 100% | 40%  | 20%  | 10%  |
| Universal                       | P1  | 230  | 285  | 315  | 350  | 215  | 270  | 300  | 335  | 200  | 250  | 275  | 310  |
|                                 |     | 750  | 940  | 1025 | 1150 | 710  | 890  | 980  | 1100 | 660  | 820  | 900  | 1025 |
| Steel and cast iron             | P2  | 220  | 275  | 310  | 345  | 210  | 260  | 290  | 325  | 195  | 240  | 270  | 295  |
|                                 |     | 720  | 900  | 1025 | 1125 | 690  | 850  | 950  | 1075 | 640  | 790  | 890  | 970  |
|                                 | P3  | 195  | 240  | 270  | 295  | 185  | 225  | 255  | 280  | 170  | 210  | 235  | 260  |
|                                 |     | 640  | 790  | 890  | 970  | 610  | 740  | 840  | 920  | 560  | 690  | 770  | 850  |
|                                 | P4  | 170  | 215  | 240  | 265  | 160  | 205  | 225  | 250  | 150  | 185  | 205  | 225  |
|                                 |     | 560  | 710  | 790  | 870  | 520  | 670  | 740  | 820  | 490  | 610  | 670  | 740  |
|                                 | P5  | 165  | 205  | 230  | 250  | 155  | 195  | 215  | 240  | 140  | 175  | 200  | 220  |
|                                 |     | 540  | 670  | 750  | 820  | 510  | 640  | 710  | 790  | 460  | 570  | 660  | 720  |
|                                 | P6  | 185  | 230  | 260  | 285  | 175  | 215  | 245  | 270  | 160  | 200  | 220  | 245  |
|                                 |     | 610  | 750  | 850  | 940  | 570  | 710  | 800  | 890  | 520  | 660  | 720  | 800  |
| Stainless steel and S-materials | P7  | 175  | 220  | 245  | 265  | 165  | 205  | 230  | 255  | 150  | 190  | 210  | 235  |
|                                 |     | 570  | 720  | 800  | 870  | 540  | 670  | 750  | 840  | 490  | 620  | 690  | 770  |
|                                 | P8  | 160  | 205  | 230  | 250  | 155  | 190  | 215  | 235  | 140  | 175  | 200  | 215  |
|                                 |     | 520  | 670  | 750  | 820  | 510  | 620  | 710  | 770  | 460  | 570  | 660  | 710  |
|                                 | P11 | 170  | 210  | 235  | 260  | 160  | 200  | 225  | 245  | 145  | 185  | 205  | 225  |
|                                 |     | 560  | 690  | 770  | 850  | 520  | 660  | 740  | 800  | 475  | 610  | 670  | 740  |
|                                 | P12 | 110  | 135  | 150  | 165  | 105  | 130  | 145  | 155  | 95   | 120  | 130  | 145  |
|                                 |     | 360  | 445  | 490  | 540  | 345  | 425  | 475  | 510  | 310  | 395  | 425  | 475  |
| Non ferrous                     | M1  | 180  | 225  | 250  | 275  | 170  | 210  | 235  | 260  | 155  | 190  | 215  | 240  |
|                                 |     | 590  | 740  | 820  | 900  | 560  | 690  | 770  | 850  | 510  | 620  | 710  | 790  |
|                                 | M2  | 150  | 185  | 205  | 225  | 140  | 175  | 195  | 215  | 125  | 160  | 180  | 200  |
|                                 |     | 490  | 610  | 670  | 740  | 460  | 570  | 640  | 710  | 410  | 520  | 590  | 660  |
|                                 | M3  | 120  | 150  | 165  | 180  | 110  | 140  | 155  | 175  | 105  | 130  | 145  | 155  |
|                                 |     | 395  | 490  | 540  | 590  | 360  | 460  | 510  | 570  | 345  | 425  | 475  | 510  |
|                                 | M4  | 90   | 115  | 130  | 140  | 85   | 110  | 120  | 135  | 80   | 100  | 110  | 120  |
|                                 |     | 295  | 375  | 425  | 460  | 280  | 360  | 395  | 445  | 260  | 330  | 360  | 395  |
|                                 | M5  | 75   | 95   | 105  | 115  | 75   | 90   | 100  | 110  | 65   | 85   | 95   | 100  |
|                                 |     | 245  | 310  | 345  | 375  | 245  | 295  | 330  | 360  | 215  | 280  | 310  | 330  |
| Hard                            | K1  | 175  | 220  | 245  | 270  | 165  | 205  | 230  | 260  | 150  | 190  | 210  | 235  |
|                                 |     | 570  | 720  | 800  | 890  | 540  | 670  | 750  | 850  | 490  | 620  | 690  | 770  |
|                                 | K2  | 155  | 195  | 215  | 240  | 145  | 185  | 205  | 225  | 135  | 170  | 190  | 210  |
|                                 |     | 510  | 640  | 710  | 790  | 475  | 610  | 670  | 740  | 445  | 560  | 620  | 690  |
|                                 | K3  | 130  | 165  | 185  | 205  | 125  | 155  | 175  | 190  | 115  | 145  | 160  | 175  |
|                                 |     | 425  | 540  | 610  | 670  | 410  | 510  | 570  | 620  | 375  | 475  | 520  | 570  |
|                                 | K4  | 125  | 160  | 175  | 195  | 120  | 150  | 165  | 185  | 110  | 135  | 150  | 170  |
|                                 |     | 410  | 520  | 570  | 640  | 395  | 490  | 540  | 610  | 360  | 445  | 490  | 560  |
|                                 | K5  | 75   | 95   | 105  | 115  | 75   | 90   | 100  | 110  | 65   | 80   | 95   | 100  |
|                                 |     | 245  | 310  | 345  | 375  | 245  | 295  | 330  | 360  | 215  | 260  | 310  | 330  |
| Plastic and cfrp                | K6  | 110  | 140  | 155  | 170  | 105  | 130  | 145  | 160  | 95   | 120  | 135  | 150  |
|                                 |     | 360  | 460  | 510  | 560  | 345  | 425  | 475  | 520  | 310  | 395  | 445  | 490  |
|                                 | K7  | 100  | 120  | 135  | 150  | 95   | 115  | 130  | 140  | 85   | 105  | 120  | 130  |
|                                 |     | 330  | 395  | 445  | 490  | 310  | 375  | 425  | 460  | 280  | 345  | 395  | 425  |
| Graphite                        | N1  | 1325 | 1650 | 1825 | 2025 | 1225 | 1550 | 1725 | 1925 | 1125 | 1425 | 1575 | 1750 |
|                                 |     | 4350 | 5425 | 6000 | 6650 | 4025 | 5075 | 5650 | 6325 | 3700 | 4675 | 5175 | 5750 |
|                                 | N2  | 530  | 670  | 730  | 820  | 500  | 630  | 690  | 770  | 455  | 570  | 640  | 700  |
|                                 |     | 1750 | 2200 | 2400 | 2700 | 1650 | 2075 | 2275 | 2525 | 1500 | 1875 | 2100 | 2300 |
|                                 | N3  | 355  | 445  | 490  | 540  | 335  | 420  | 465  | 520  | 305  | 385  | 425  | 470  |
|                                 |     | 1175 | 1450 | 1600 | 1775 | 1100 | 1375 | 1525 | 1700 | 1000 | 1275 | 1400 | 1550 |
|                                 | N11 | 405  | 510  | 560  | 620  | 380  | 475  | 530  | 590  | 345  | 435  | 485  | 540  |
|                                 |     | 1325 | 1675 | 1825 | 2025 | 1250 | 1550 | 1750 | 1925 | 1125 | 1425 | 1600 | 1775 |
| X-Heads                         | S1  | 43   | 55   | 60   | 65   | 41   | 50   | 55   | 60   | 38   | 46   | 50   | 55   |
|                                 |     | 140  | 180  | 195  | 215  | 135  | 165  | 180  | 195  | 125  | 150  | 165  | 180  |
|                                 | S2  | 35   | 43   | 48   | 55   | 33   | 41   | 45   | 50   | 30   | 37   | 42   | 46   |
|                                 |     | 115  | 140  | 155  | 180  | 110  | 135  | 150  | 165  | 100  | 120  | 140  | 150  |
|                                 | S3  | 30   | 38   | 42   | 46   | 29   | 35   | 40   | 44   | 27   | 33   | 37   | 40   |
|                                 |     | 100  | 125  | 140  | 150  | 95   | 115  | 130  | 145  | 90   | 110  | 120  | 130  |
|                                 | S11 | 60   | 75   | 85   | 90   | 55   | 70   | 80   | 90   | 50   | 65   | 75   | 80   |
|                                 |     | 195  | 245  | 280  | 295  | 180  | 230  | 260  | 295  | 165  | 215  | 245  | 260  |
|                                 | S12 | 42   | 50   | 60   | 65   | 39   | 49   | 55   | 60   | 36   | 45   | 50   | 55   |
|                                 |     | 140  | 165  | 195  | 215  | 130  | 160  | 180  | 195  | 120  | 150  | 165  | 180  |
| Minimaster                      | S13 | 24   | 30   | 34   | 37   | 23   | 29   | 32   | 35   | 21   | 26   | 29   | 32   |
|                                 |     | 80   | 100  | 110  | 120  | 75   | 95   | 105  | 115  | 70   | 85   | 95   | 105  |
|                                 | H5  | 36   | 45   | 50   | 55   | 34   | 43   | 48   | 50   | 31   | 39   | 44   | 48   |
|                                 |     | 120  | 150  | 165  | 180  | 110  | 140  | 155  | 165  | 100  | 130  | 145  | 155  |
|                                 | H8  | 38   | 47   | 55   | 60   | 36   | 45   | 50   | 55   | 33   | 41   | 46   | 50   |
|                                 |     | 125  | 155  | 180  | 195  | 120  | 150  | 165  | 180  | 110  | 135  | 150  | 165  |
|                                 | H11 | 46   | 60   | 65   | 70   | 43   | 55   | 60   | 65   | 40   | 50   | 55   | 60   |
|                                 |     | 150  | 195  | 215  | 230  | 140  | 180  | 195  | 215  | 130  | 165  | 180  | 195  |
|                                 | H12 | 70   | 85   | 95   | 105  | 65   | 80   | 90   | 100  | 60   | 75   | 85   | 90   |
|                                 |     | 230  | 280  | 310  | 345  | 215  | 260  | 295  | 330  | 195  | 245  | 280  | 295  |
|                                 | H21 | 38   | 47   | 55   | 60   | 36   | 45   | 50   | 55   | 33   | 41   | 46   | 50   |
|                                 |     | 125  | 155  | 180  | 195  | 120  | 150  | 165  | 180  | 110  | 135  | 150  | 165  |

**MM16 Z3 – Copy milling – Insert selection – Roughing – mm/Inch**

| SMG |                            | $a_p$ | $f_z$  |        |        |        |
|-----|----------------------------|-------|--------|--------|--------|--------|
|     |                            |       | 100%   | 40%    | 20%    | 10%    |
| P1  | MM16-16019-B90A30-M06 F40M | 3,5   | 0,11   | 0,10   | 0,11   | 0,14   |
|     |                            | 0.14  | 0.0044 | 0.0040 | 0.0044 | 0.0055 |
| P2  | MM16-16019-B90A30-M06 F40M | 3,5   | 0,11   | 0,10   | 0,11   | 0,15   |
|     |                            | 0.14  | 0.0044 | 0.0040 | 0.0044 | 0.0060 |
| P3  | MM16-16019-B90A30-M06 F40M | 3,5   | 0,10   | 0,10   | 0,10   | 0,14   |
|     |                            | 0.14  | 0.0040 | 0.0040 | 0.0040 | 0.0055 |
| P4  | MM16-16019-B90A30-M06 F40M | 3,5   | 0,10   | 0,095  | 0,10   | 0,13   |
|     |                            | 0.14  | 0.0040 | 0.0038 | 0.0040 | 0.0050 |
| P5  | MM16-16019-B90A30-M06 F40M | 3,5   | 0,10   | 0,095  | 0,10   | 0,13   |
|     |                            | 0.14  | 0.0040 | 0.0038 | 0.0040 | 0.0050 |
| P6  | MM16-16019-B90A30-M06 F40M | 3,5   | 0,095  | 0,095  | 0,10   | 0,13   |
|     |                            | 0.14  | 0.0038 | 0.0038 | 0.0040 | 0.0050 |
| P7  | MM16-16019-B90A30-M06 F40M | 3,5   | 0,095  | 0,095  | 0,10   | 0,13   |
|     |                            | 0.14  | 0.0038 | 0.0038 | 0.0040 | 0.0050 |
| P8  | MM16-16019-B90A30-M06 F40M | 3,5   | 0,10   | 0,10   | 0,10   | 0,14   |
|     |                            | 0.14  | 0.0040 | 0.0040 | 0.0040 | 0.0055 |
| P11 | MM16-16019-B90A30-M06 F40M | 3,5   | 0,095  | 0,095  | 0,10   | 0,13   |
|     |                            | 0.14  | 0.0038 | 0.0038 | 0.0040 | 0.0050 |
| P12 | MM16-16019-B90A30-M06 F40M | 2,5   | 0,070  | 0,070  | 0,070  | 0,090  |
|     |                            | 0.10  | 0.0028 | 0.0028 | 0.0028 | 0.0036 |
| M1  | MM16-16019-B90A30-M06 F40M | 3,5   | 0,11   | 0,10   | 0,11   | 0,15   |
|     |                            | 0.14  | 0.0044 | 0.0040 | 0.0044 | 0.0060 |
| M2  | MM16-16019-B90A30-M06 F40M | 3,5   | 0,10   | 0,095  | 0,10   | 0,13   |
|     |                            | 0.14  | 0.0040 | 0.0038 | 0.0040 | 0.0050 |
| M3  | MM16-16019-B90A30-M06 F40M | 2,5   | 0,085  | 0,080  | 0,080  | 0,11   |
|     |                            | 0.10  | 0.0034 | 0.0032 | 0.0032 | 0.0044 |
| M4  | MM16-16019-B90A30-M06 F40M | 2,0   | 0,075  | 0,075  | 0,075  | 0,090  |
|     |                            | 0.080 | 0.0030 | 0.0030 | 0.0030 | 0.0038 |
| M5  | MM16-16019-B90A30-M06 F40M | 2,0   | 0,075  | 0,075  | 0,075  | 0,090  |
|     |                            | 0.080 | 0.0030 | 0.0030 | 0.0030 | 0.0038 |
| K1  | MM16-16019-B90A30-E06 F30M | 3,5   | 0,11   | 0,10   | 0,11   | 0,15   |
|     |                            | 0.14  | 0.0044 | 0.0040 | 0.0044 | 0.0060 |
| K2  | MM16-16019-B90A30-E06 F30M | 3,5   | 0,10   | 0,095  | 0,10   | 0,13   |
|     |                            | 0.14  | 0.0040 | 0.0038 | 0.0040 | 0.0050 |
| K3  | MM16-16019-B90A30-E06 F30M | 3,5   | 0,10   | 0,095  | 0,10   | 0,13   |
|     |                            | 0.14  | 0.0040 | 0.0038 | 0.0040 | 0.0050 |
| K4  | MM16-16019-B90A30-E06 F30M | 3,5   | 0,10   | 0,095  | 0,10   | 0,13   |
|     |                            | 0.14  | 0.0040 | 0.0038 | 0.0040 | 0.0050 |
| K5  | MM16-16019-B90A30-E06 F30M | 3,5   | 0,090  | 0,085  | 0,090  | 0,12   |
|     |                            | 0.14  | 0.0036 | 0.0034 | 0.0036 | 0.0048 |
| K6  | MM16-16019-B90A30-E06 F30M | 3,5   | 0,10   | 0,095  | 0,10   | 0,13   |
|     |                            | 0.14  | 0.0040 | 0.0038 | 0.0040 | 0.0050 |
| K7  | MM16-16019-B90A30-E06 F30M | 3,5   | 0,090  | 0,085  | 0,090  | 0,12   |
|     |                            | 0.14  | 0.0036 | 0.0034 | 0.0036 | 0.0048 |
| N1  | MM16-16019-B90A30-E06 F30M | 3,5   | 0,14   | 0,13   | 0,14   | 0,19   |
|     |                            | 0.14  | 0.0055 | 0.0050 | 0.0055 | 0.0075 |
| N2  | MM16-16019-B90A30-E06 F30M | 3,5   | 0,14   | 0,13   | 0,14   | 0,19   |
|     |                            | 0.14  | 0.0055 | 0.0050 | 0.0055 | 0.0075 |
| N3  | MM16-16019-B90A30-E06 F30M | 3,5   | 0,14   | 0,13   | 0,14   | 0,19   |
|     |                            | 0.14  | 0.0055 | 0.0050 | 0.0055 | 0.0075 |
| N11 | MM16-16019-B90A30-E06 F30M | 3,5   | 0,14   | 0,13   | 0,14   | 0,19   |
|     |                            | 0.14  | 0.0055 | 0.0050 | 0.0055 | 0.0075 |
| S1  | MM16-16019-B90A30-M06 F40M | 2,0   | 0,075  | 0,075  | 0,075  | 0,090  |
|     |                            | 0.080 | 0.0030 | 0.0030 | 0.0030 | 0.0038 |
| S2  | MM16-16019-B90A30-M06 F40M | 2,0   | 0,075  | 0,075  | 0,075  | 0,090  |
|     |                            | 0.080 | 0.0030 | 0.0030 | 0.0030 | 0.0038 |
| S3  | MM16-16019-B90A30-M06 F40M | 2,0   | 0,070  | 0,070  | 0,070  | 0,085  |
|     |                            | 0.080 | 0.0028 | 0.0028 | 0.0028 | 0.0036 |
| S11 | MM16-16019-B90A30-M06 F40M | 2,5   | 0,085  | 0,080  | 0,085  | 0,11   |
|     |                            | 0.10  | 0.0034 | 0.0032 | 0.0034 | 0.0044 |
| S12 | MM16-16019-B90A30-M06 F40M | 2,5   | 0,085  | 0,080  | 0,085  | 0,11   |
|     |                            | 0.10  | 0.0034 | 0.0032 | 0.0034 | 0.0044 |
| S13 | MM16-16019-B90A30-M06 F40M | 2,0   | 0,075  | 0,075  | 0,075  | 0,090  |
|     |                            | 0.080 | 0.0030 | 0.0030 | 0.0030 | 0.0038 |
| H5  | MM16-16019-B90A30-E06 F30M | 2,5   | 0,070  | 0,070  | 0,070  | 0,090  |
|     |                            | 0.10  | 0.0028 | 0.0028 | 0.0028 | 0.0036 |
| H8  | MM16-16019-B90A30-E06 F30M | 2,5   | 0,055  | 0,050  | 0,055  | 0,070  |
|     |                            | 0.10  | 0.0022 | 0.0020 | 0.0022 | 0.0028 |
| H11 | MM16-16019-B90A30-E06 F30M | 2,5   | 0,070  | 0,070  | 0,070  | 0,090  |
|     |                            | 0.10  | 0.0028 | 0.0028 | 0.0028 | 0.0036 |
| H12 | MM16-16019-B90A30-E06 F30M | 2,5   | 0,055  | 0,050  | 0,055  | 0,070  |
|     |                            | 0.10  | 0.0022 | 0.0020 | 0.0022 | 0.0028 |
| H21 | MM16-16019-B90A30-E06 F30M | 2,5   | 0,055  | 0,050  | 0,055  | 0,070  |
|     |                            | 0.10  | 0.0022 | 0.0020 | 0.0022 | 0.0028 |

SMG = Seco material group

 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %

All cutting data are start values

 Universal  
 Steel and cast iron  
 Stainless steel and S-materials  
 Stainless steel and S-materials  
 Non ferrous  
 Hard  
 Graphite  
 X-Heads  
 Minimaster

### MM16 Z3 – Copy milling – Insert selection – Finishing – mm/Inch

|                                 | SMG |                            | $a_p$        | $f_z$           |                 |                 |                |
|---------------------------------|-----|----------------------------|--------------|-----------------|-----------------|-----------------|----------------|
|                                 |     |                            |              | 15%             | 10%             | 5%              | 2%             |
| Universal                       | P1  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,20<br>0,0080  | 0,32<br>0,013  |
|                                 | P2  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,12<br>0,0048  | 0,15<br>0,0060  | 0,20<br>0,0080  | 0,34<br>0,013  |
| Steel and cast iron             | P3  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,19<br>0,0075  | 0,32<br>0,013  |
|                                 | P4  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,19<br>0,0075  | 0,30<br>0,012  |
|                                 | P5  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,18<br>0,0070  | 0,30<br>0,012  |
|                                 | P6  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,18<br>0,0070  | 0,30<br>0,012  |
|                                 | P7  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,18<br>0,0070  | 0,30<br>0,012  |
|                                 | P8  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,12<br>0,0048  | 0,14<br>0,0055  | 0,19<br>0,0075  | 0,32<br>0,013  |
| Stainless steel and S-materials | P11 | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,18<br>0,0070  | 0,30<br>0,012  |
|                                 | P12 | MM16-16019-B90A30-E06 F30M | 2,5<br>0,10  | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,12<br>0,0048  | 0,20<br>0,0080 |
|                                 | M1  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,12<br>0,0048  | 0,15<br>0,0060  | 0,20<br>0,0080  | 0,34<br>0,013  |
|                                 | M2  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,18<br>0,0070  | 0,30<br>0,012  |
| Non ferrous                     | M3  | MM16-16019-B90A30-E06 F30M | 2,5<br>0,10  | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,15<br>0,0060  | 0,24<br>0,0095 |
|                                 | M4  | MM16-16019-B90A30-E06 F30M | 2,0<br>0,080 | 0,080<br>0,0032 | 0,090<br>0,0038 | 0,13<br>0,0050  | 0,20<br>0,0080 |
|                                 | M5  | MM16-16019-B90A30-E06 F30M | 2,0<br>0,080 | 0,080<br>0,0032 | 0,090<br>0,0038 | 0,13<br>0,0050  | 0,20<br>0,0080 |
|                                 | K1  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,12<br>0,0048  | 0,15<br>0,0060  | 0,20<br>0,0080  | 0,34<br>0,013  |
|                                 | K2  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,18<br>0,0070  | 0,30<br>0,012  |
| Hard                            | K3  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,18<br>0,0070  | 0,30<br>0,012  |
|                                 | K4  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,18<br>0,0070  | 0,30<br>0,012  |
|                                 | K5  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,17<br>0,0065  | 0,26<br>0,010  |
|                                 | K6  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,11<br>0,0044  | 0,13<br>0,0050  | 0,18<br>0,0070  | 0,30<br>0,012  |
| Plastic and cfrp                | K7  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,10<br>0,0040  | 0,12<br>0,0048  | 0,17<br>0,0065  | 0,26<br>0,010  |
|                                 | N1  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,16<br>0,0065  | 0,19<br>0,0075  | 0,26<br>0,010   | 0,44<br>0,017  |
|                                 | N2  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,16<br>0,0065  | 0,19<br>0,0075  | 0,26<br>0,010   | 0,44<br>0,017  |
|                                 | N3  | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,16<br>0,0065  | 0,19<br>0,0075  | 0,26<br>0,010   | 0,44<br>0,017  |
| Graphite                        | N11 | MM16-16019-B90A30-E06 F30M | 3,5<br>0,14  | 0,16<br>0,0065  | 0,19<br>0,0075  | 0,26<br>0,010   | 0,44<br>0,017  |
|                                 | S1  | MM16-16019-B90A30-E06 F30M | 2,0<br>0,080 | 0,080<br>0,0032 | 0,090<br>0,0038 | 0,13<br>0,0050  | 0,20<br>0,0080 |
|                                 | S2  | MM16-16019-B90A30-E06 F30M | 2,0<br>0,080 | 0,080<br>0,0032 | 0,090<br>0,0038 | 0,13<br>0,0050  | 0,20<br>0,0080 |
|                                 | S3  | MM16-16019-B90A30-E06 F30M | 2,0<br>0,080 | 0,075<br>0,0030 | 0,085<br>0,0036 | 0,12<br>0,0048  | 0,19<br>0,0075 |
| X-Heads                         | S11 | MM16-16019-B90A30-E06 F30M | 2,5<br>0,10  | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,15<br>0,0060  | 0,24<br>0,0095 |
|                                 | S12 | MM16-16019-B90A30-E06 F30M | 2,5<br>0,10  | 0,090<br>0,0036 | 0,11<br>0,0044  | 0,15<br>0,0060  | 0,24<br>0,0095 |
|                                 | S13 | MM16-16019-B90A30-E06 F30M | 2,0<br>0,080 | 0,080<br>0,0032 | 0,090<br>0,0038 | 0,13<br>0,0050  | 0,20<br>0,0080 |
|                                 | H5  | MM16-16019-B90A30-E06 F30M | 2,5<br>0,10  | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,12<br>0,0048  | 0,20<br>0,0080 |
|                                 | H8  | MM16-16019-B90A30-E06 F30M | 2,5<br>0,10  | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,095<br>0,0038 | 0,15<br>0,0060 |
|                                 | H11 | MM16-16019-B90A30-E06 F30M | 2,5<br>0,10  | 0,075<br>0,0030 | 0,090<br>0,0036 | 0,12<br>0,0048  | 0,20<br>0,0080 |
| Minimaster                      | H12 | MM16-16019-B90A30-E06 F30M | 2,5<br>0,10  | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,095<br>0,0038 | 0,15<br>0,0060 |
|                                 | H21 | MM16-16019-B90A30-E06 F30M | 2,5<br>0,10  | 0,060<br>0,0024 | 0,070<br>0,0028 | 0,095<br>0,0038 | 0,15<br>0,0060 |

SMG = Seco material group

$f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %

All cutting data are start values



### MM16 Z3 – Copy milling – Cutting data $v_c = (m/min)/(sf/min)$

| SMG | F30M |      |      |      |      | F40M |      |      |      |      |                                           |
|-----|------|------|------|------|------|------|------|------|------|------|-------------------------------------------|
|     | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   |                                           |
| P1  | 245  | 295  | 310  | 335  | 335  | 235  | 280  | 295  | 320  | 320  | Universal                                 |
|     | 800  | 970  | 1025 | 1100 | 1100 | 770  | 920  | 970  | 1050 | 1050 |                                           |
| P2  | 240  | 285  | 300  | 325  | 320  | 230  | 270  | 285  | 310  | 305  | Steel and cast iron                       |
|     | 790  | 940  | 980  | 1075 | 1050 | 750  | 890  | 940  | 1025 | 1000 |                                           |
| P3  | 210  | 250  | 260  | 285  | 280  | 200  | 240  | 250  | 270  | 265  | Steel and stainless steel and S-materials |
|     | 690  | 820  | 850  | 940  | 920  | 660  | 790  | 820  | 890  | 870  |                                           |
| P4  | 185  | 220  | 235  | 250  | 250  | 175  | 210  | 225  | 240  | 240  | Steel and stainless steel and S-materials |
|     | 610  | 720  | 770  | 820  | 820  | 570  | 690  | 740  | 790  | 790  |                                           |
| P5  | 175  | 210  | 225  | 240  | 240  | 170  | 200  | 215  | 230  | 230  | Steel and stainless steel and S-materials |
|     | 570  | 690  | 740  | 790  | 790  | 560  | 660  | 710  | 750  | 750  |                                           |
| P6  | 200  | 235  | 250  | 270  | 270  | 190  | 225  | 240  | 260  | 255  | Steel and stainless steel and S-materials |
|     | 660  | 770  | 820  | 890  | 890  | 620  | 740  | 790  | 850  | 840  |                                           |
| P7  | 190  | 225  | 235  | 255  | 255  | 180  | 210  | 225  | 245  | 240  | Steel and stainless steel and S-materials |
|     | 620  | 740  | 770  | 840  | 840  | 590  | 690  | 740  | 800  | 790  |                                           |
| P8  | 175  | 210  | 220  | 240  | 235  | 170  | 200  | 210  | 230  | 225  | Steel and stainless steel and S-materials |
|     | 570  | 690  | 720  | 790  | 770  | 560  | 660  | 690  | 750  | 740  |                                           |
| P11 | 185  | 215  | 230  | 250  | 245  | 175  | 205  | 220  | 235  | 235  | Steel and stainless steel and S-materials |
|     | 610  | 710  | 750  | 820  | 800  | 570  | 670  | 720  | 770  | 770  |                                           |
| P12 | 115  | 145  | 145  | 160  | 155  | 110  | 140  | 140  | 150  | 150  | Steel and stainless steel and S-materials |
|     | 375  | 475  | 475  | 520  | 510  | 360  | 460  | 460  | 490  | 490  |                                           |
| M1  | 195  | 230  | 240  | 265  | 260  | 185  | 220  | 230  | 250  | 245  | Steel and stainless steel and S-materials |
|     | 640  | 750  | 790  | 870  | 850  | 610  | 720  | 750  | 820  | 800  |                                           |
| M2  | 160  | 190  | 200  | 220  | 215  | 150  | 180  | 190  | 205  | 205  | Steel and stainless steel and S-materials |
|     | 520  | 620  | 660  | 720  | 710  | 490  | 590  | 620  | 670  | 670  |                                           |
| M3  | 130  | 160  | 160  | 170  | 170  | 120  | 150  | 150  | 165  | 165  | Steel and stainless steel and S-materials |
|     | 425  | 520  | 520  | 560  | 560  | 395  | 490  | 490  | 540  | 540  |                                           |
| M4  | 90   | 125  | 125  | 130  | 135  | 85   | 120  | 115  | 125  | 125  | Steel and stainless steel and S-materials |
|     | 295  | 410  | 425  | 425  | 445  | 280  | 395  | 410  | 410  | 410  |                                           |
| M5  | 75   | 105  | 100  | 110  | 110  | 70   | 100  | 100  | 105  | 105  | Non ferrous                               |
|     | 245  | 345  | 360  | 360  | 360  | 230  | 330  | 345  | 345  | 345  |                                           |
| K1  | 190  | 225  | 235  | 260  | 255  | 180  | 215  | 225  | 245  | 245  | Non ferrous                               |
|     | 620  | 740  | 770  | 850  | 840  | 590  | 710  | 740  | 800  | 800  |                                           |
| K2  | 170  | 200  | 210  | 230  | 225  | 160  | 190  | 200  | 220  | 215  | Non ferrous                               |
|     | 560  | 660  | 690  | 750  | 740  | 520  | 620  | 660  | 720  | 710  |                                           |
| K3  | 140  | 170  | 180  | 195  | 190  | 135  | 160  | 170  | 185  | 185  | Hard                                      |
|     | 460  | 560  | 590  | 640  | 620  | 445  | 520  | 560  | 610  | 610  |                                           |
| K4  | 135  | 160  | 170  | 185  | 185  | 130  | 155  | 165  | 175  | 175  | Hard                                      |
|     | 445  | 520  | 560  | 610  | 610  | 425  | 510  | 540  | 570  | 570  |                                           |
| K5  | 85   | 100  | 105  | 110  | 110  | 80   | 95   | 100  | 105  | 105  | Hard                                      |
|     | 280  | 330  | 345  | 360  | 360  | 260  | 310  | 330  | 345  | 345  |                                           |
| K6  | 120  | 140  | 150  | 165  | 160  | 115  | 135  | 145  | 155  | 155  | Hard                                      |
|     | 395  | 460  | 490  | 540  | 520  | 375  | 445  | 475  | 510  | 510  |                                           |
| K7  | 105  | 125  | 130  | 145  | 145  | 100  | 120  | 125  | 135  | 135  | Hard                                      |
|     | 345  | 410  | 425  | 475  | 475  | 330  | 395  | 410  | 445  | 445  |                                           |
| N1  | 1425 | 1700 | 1775 | 1925 | 1900 | 1350 | 1625 | 1700 | 1850 | 1800 | Graphite                                  |
|     | 4675 | 5575 | 5825 | 6325 | 6225 | 4425 | 5325 | 5575 | 6075 | 5900 |                                           |
| N2  | 580  | 690  | 720  | 780  | 770  | 550  | 650  | 680  | 740  | 730  | Graphite                                  |
|     | 1900 | 2275 | 2350 | 2550 | 2525 | 1800 | 2125 | 2225 | 2425 | 2400 |                                           |
| N3  | 385  | 455  | 480  | 520  | 510  | 365  | 435  | 455  | 495  | 485  | Graphite                                  |
|     | 1275 | 1500 | 1575 | 1700 | 1675 | 1200 | 1425 | 1500 | 1625 | 1600 |                                           |
| N11 | 440  | 520  | 550  | 600  | 580  | 420  | 495  | 520  | 570  | 560  | Graphite                                  |
|     | 1450 | 1700 | 1800 | 1975 | 1900 | 1375 | 1625 | 1700 | 1875 | 1825 |                                           |
| S1  | 42   | 60   | 55   | 60   | 60   | 40   | 55   | 55   | 60   | 60   | X-Heads                                   |
|     | 140  | 195  | 195  | 195  | 195  | 130  | 180  | 195  | 195  | 195  |                                           |
| S2  | 34   | 48   | 46   | 50   | 50   | 33   | 45   | 44   | 47   | 48   | X-Heads                                   |
|     | 110  | 155  | 160  | 165  | 165  | 110  | 150  | 155  | 155  | 155  |                                           |
| S3  | 30   | 41   | 40   | 43   | 43   | 28   | 39   | 38   | 41   | 41   | X-Heads                                   |
|     | 100  | 135  | 140  | 140  | 140  | 90   | 130  | 135  | 135  | 135  |                                           |
| S11 | 65   | 80   | 80   | 85   | 85   | 60   | 80   | 75   | 85   | 80   | X-Heads                                   |
|     | 215  | 260  | 280  | 280  | 280  | 195  | 260  | 260  | 280  | 260  |                                           |
| S12 | 45   | 55   | 55   | 60   | 60   | 43   | 55   | 55   | 55   | 55   | Minimaster                                |
|     | 150  | 180  | 195  | 195  | 195  | 140  | 180  | 180  | 180  | 180  |                                           |
| S13 | 24   | 33   | 32   | 35   | 35   | 23   | 32   | 31   | 33   | 33   | Minimaster                                |
|     | 80   | 110  | 110  | 115  | 115  | 75   | 105  | 110  | 110  | 110  |                                           |
| H5  | 39   | 48   | 48   | 55   | 50   | 37   | 46   | 46   | 50   | 50   | Minimaster                                |
|     | 130  | 155  | 160  | 180  | 165  | 120  | 150  | 150  | 165  | 165  |                                           |
| H8  | 40   | 50   | 50   | 55   | 55   | 38   | 49   | 48   | 50   | 50   | Minimaster                                |
|     | 130  | 165  | 165  | 180  | 180  | 125  | 160  | 165  | 165  | 165  |                                           |
| H11 | 50   | 60   | 60   | 65   | 65   | 47   | 60   | 60   | 65   | 65   | Minimaster                                |
|     | 165  | 195  | 195  | 215  | 215  | 155  | 195  | 195  | 215  | 215  |                                           |
| H12 | 70   | 90   | 90   | 100  | 100  | 70   | 85   | 85   | 95   | 95   | Minimaster                                |
|     | 230  | 295  | 310  | 330  | 330  | 230  | 280  | 295  | 310  | 310  |                                           |
| H21 | 40   | 50   | 50   | 55   | 55   | 38   | 49   | 48   | 50   | 50   | Minimaster                                |
|     | 130  | 165  | 165  | 180  | 180  | 125  | 160  | 165  | 165  | 165  |                                           |

### MM16 Z2 – Copy milling – Insert selection – Roughing – mm/Inch

|                                 | SMG |                           | $a_p$       | $f_z$           |                 |                 |                 |
|---------------------------------|-----|---------------------------|-------------|-----------------|-----------------|-----------------|-----------------|
|                                 |     |                           |             | 100%            | 40%             | 20%             | 10%             |
| Universal                       | P1  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,11<br>0.0044  | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,17<br>0.0065  |
|                                 | P2  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,11<br>0.0044  | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,17<br>0.0065  |
| Steel and cast iron             | P3  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,11<br>0.0044  | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,16<br>0.0065  |
|                                 | P4  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,10<br>0.0040  | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,16<br>0.0065  |
|                                 | P5  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,10<br>0.0040  | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  |
|                                 | P6  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,10<br>0.0040  | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  |
|                                 | P7  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,10<br>0.0040  | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  |
|                                 | P8  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,11<br>0.0044  | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,16<br>0.0065  |
| Stainless steel and S-materials | P11 | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,10<br>0.0040  | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  |
|                                 | P12 | MM16-16016-B90-MD07 F30M  | 5,0<br>0,20 | 0,070<br>0.0028 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,10<br>0.0044  |
|                                 | M1  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,11<br>0.0044  | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,17<br>0.0065  |
|                                 | M2  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,10<br>0.0040  | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  |
| Non ferrous                     | M3  | MM16-16016-B90-MD07 F30M  | 5,0<br>0,20 | 0,085<br>0.0034 | 0,080<br>0.0032 | 0,095<br>0.0038 | 0,12<br>0.0050  |
|                                 | M4  | MM16-16016-B90-MD07 F30M  | 4,0<br>0,16 | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,085<br>0.0034 | 0,11<br>0.0044  |
|                                 | M5  | MM16-16016-B90-MD07 F30M  | 4,0<br>0,16 | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,085<br>0.0034 | 0,11<br>0.0044  |
|                                 | K1  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,11<br>0.0044  | 0,11<br>0.0044  | 0,13<br>0.0050  | 0,17<br>0.0065  |
|                                 | K2  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,10<br>0.0040  | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  |
| Hard                            | K3  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,10<br>0.0040  | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  |
|                                 | K4  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,10<br>0.0040  | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  |
|                                 | K5  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,090<br>0.0036 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,14<br>0.0055  |
|                                 | K6  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,10<br>0.0040  | 0,10<br>0.0040  | 0,12<br>0.0048  | 0,15<br>0.0060  |
|                                 | K7  | MM16-16016-B90-MD07 F30M  | 6,0<br>0,24 | 0,090<br>0.0036 | 0,090<br>0.0036 | 0,11<br>0.0044  | 0,14<br>0.0055  |
| Plastic and cfrp                | N1  | MM16-16016-B90PF-M03 F15M | 6,0<br>0,24 | 0,060<br>0.0024 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 |
|                                 | N2  | MM16-16016-B90PF-M03 F15M | 6,0<br>0,24 | 0,060<br>0.0024 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 |
|                                 | N3  | MM16-16016-B90PF-M03 F15M | 6,0<br>0,24 | 0,060<br>0.0024 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 |
|                                 | N11 | MM16-16016-B90PF-M03 F15M | 6,0<br>0,24 | 0,060<br>0.0024 | 0,060<br>0.0024 | 0,070<br>0.0028 | 0,095<br>0.0038 |
| Graphite                        | S1  | MM16-16016-B90-MD07 F30M  | 4,0<br>0,16 | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,085<br>0.0034 | 0,11<br>0.0044  |
|                                 | S2  | MM16-16016-B90-MD07 F30M  | 4,0<br>0,16 | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,085<br>0.0034 | 0,11<br>0.0044  |
|                                 | S3  | MM16-16016-B90-MD07 F30M  | 4,0<br>0,16 | 0,070<br>0.0028 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,10<br>0.0040  |
|                                 | S11 | MM16-16016-B90-MD07 F30M  | 4,5<br>0,18 | 0,085<br>0.0034 | 0,085<br>0.0034 | 0,095<br>0.0038 | 0,12<br>0.0050  |
| X-Heads                         | S12 | MM16-16016-B90-MD07 F30M  | 4,5<br>0,18 | 0,085<br>0.0034 | 0,085<br>0.0034 | 0,095<br>0.0038 | 0,12<br>0.0050  |
|                                 | S13 | MM16-16016-B90-MD07 F30M  | 4,0<br>0,16 | 0,080<br>0.0032 | 0,080<br>0.0032 | 0,085<br>0.0034 | 0,11<br>0.0044  |
|                                 | H5  | MM16-16016-B90-MD07 F30M  | 5,0<br>0,20 | 0,070<br>0.0028 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,10<br>0.0044  |
|                                 | H8  | MM16-16016-B90-MD07 F30M  | 4,5<br>0,18 | 0,055<br>0.0022 | 0,055<br>0.0022 | 0,060<br>0.0024 | 0,080<br>0.0032 |
| Minimaster                      | H11 | MM16-16016-B90-MD07 F30M  | 5,0<br>0,20 | 0,070<br>0.0028 | 0,070<br>0.0028 | 0,080<br>0.0032 | 0,10<br>0.0044  |
|                                 | H12 | MM16-16016-B90-MD07 F30M  | 4,5<br>0,18 | 0,055<br>0.0022 | 0,055<br>0.0022 | 0,060<br>0.0024 | 0,080<br>0.0032 |
|                                 | H21 | MM16-16016-B90-MD07 F30M  | 4,5<br>0,18 | 0,055<br>0.0022 | 0,055<br>0.0022 | 0,060<br>0.0024 | 0,080<br>0.0032 |

SMG = Seco material group

$f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e$ /DC = %

All cutting data are start values

**MM16 Z2 – Copy milling – Insert selection – Finishing – mm/Inch**

| SMG |                           | $a_p$ | $f_z$  |        |        |        |                                 |
|-----|---------------------------|-------|--------|--------|--------|--------|---------------------------------|
|     |                           |       | 15%    | 10%    | 5%     | 2%     |                                 |
| P1  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,060  | 0,070  | 0,10   | 0,16   | Universal                       |
|     |                           | 0.24  | 0.0024 | 0.0028 | 0.0040 | 0.0065 |                                 |
| P2  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,060  | 0,075  | 0,10   | 0,16   | Steel and cast iron             |
|     |                           | 0.24  | 0.0024 | 0.0030 | 0.0040 | 0.0065 |                                 |
| P3  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,060  | 0,070  | 0,095  | 0,15   | Steel and cast iron             |
|     |                           | 0.24  | 0.0024 | 0.0028 | 0.0038 | 0.0060 |                                 |
| P4  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,055  | 0,070  | 0,095  | 0,15   | Steel and cast iron             |
|     |                           | 0.24  | 0.0022 | 0.0028 | 0.0038 | 0.0060 |                                 |
| P5  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,055  | 0,065  | 0,090  | 0,15   | Steel and cast iron             |
|     |                           | 0.24  | 0.0022 | 0.0026 | 0.0036 | 0.0060 |                                 |
| P6  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,055  | 0,065  | 0,090  | 0,14   | Steel and cast iron             |
|     |                           | 0.24  | 0.0022 | 0.0026 | 0.0036 | 0.0055 |                                 |
| P7  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,055  | 0,065  | 0,090  | 0,14   | Steel and cast iron             |
|     |                           | 0.24  | 0.0022 | 0.0026 | 0.0036 | 0.0055 |                                 |
| P8  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,060  | 0,070  | 0,095  | 0,15   | Stainless steel and S-materials |
|     |                           | 0.24  | 0.0024 | 0.0028 | 0.0038 | 0.0060 |                                 |
| P11 | MM16-16016-B90PF-M03 F15M | 6,0   | 0,055  | 0,065  | 0,090  | 0,14   | Stainless steel and S-materials |
|     |                           | 0.24  | 0.0022 | 0.0026 | 0.0036 | 0.0055 |                                 |
| P12 | MM16-16016-B90PF-M03 F15M | 4,5   | 0,038  | 0,046  | 0,060  | 0,10   | Stainless steel and S-materials |
|     |                           | 0.18  | 0.0015 | 0.0018 | 0.0024 | 0.0040 |                                 |
| M1  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,060  | 0,075  | 0,10   | 0,16   | Stainless steel and S-materials |
|     |                           | 0.24  | 0.0024 | 0.0030 | 0.0040 | 0.0065 |                                 |
| M2  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,055  | 0,065  | 0,090  | 0,15   | Stainless steel and S-materials |
|     |                           | 0.24  | 0.0022 | 0.0026 | 0.0036 | 0.0060 |                                 |
| M3  | MM16-16016-B90PF-M03 F15M | 4,5   | 0,046  | 0,055  | 0,075  | 0,12   | Stainless steel and S-materials |
|     |                           | 0.18  | 0.0018 | 0.0022 | 0.0030 | 0.0048 |                                 |
| M4  | MM16-16016-B90PF-M03 F15M | 3,5   | 0,040  | 0,046  | 0,065  | 0,10   | Stainless steel and S-materials |
|     |                           | 0.14  | 0.0016 | 0.0019 | 0.0026 | 0.0040 |                                 |
| M5  | MM16-16016-B90PF-M03 F15M | 3,5   | 0,040  | 0,046  | 0,065  | 0,10   | Stainless steel and S-materials |
|     |                           | 0.14  | 0.0016 | 0.0019 | 0.0026 | 0.0040 |                                 |
| K1  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,060  | 0,075  | 0,10   | 0,16   | Non ferrous                     |
|     |                           | 0.24  | 0.0024 | 0.0030 | 0.0040 | 0.0065 |                                 |
| K2  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,055  | 0,065  | 0,090  | 0,15   | Non ferrous                     |
|     |                           | 0.24  | 0.0022 | 0.0026 | 0.0036 | 0.0060 |                                 |
| K3  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,055  | 0,065  | 0,090  | 0,15   | Non ferrous                     |
|     |                           | 0.24  | 0.0022 | 0.0026 | 0.0036 | 0.0060 |                                 |
| K4  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,055  | 0,065  | 0,090  | 0,15   | Non ferrous                     |
|     |                           | 0.24  | 0.0022 | 0.0026 | 0.0036 | 0.0060 |                                 |
| K5  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,050  | 0,060  | 0,085  | 0,13   | Non ferrous                     |
|     |                           | 0.24  | 0.0020 | 0.0024 | 0.0034 | 0.0050 |                                 |
| K6  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,055  | 0,065  | 0,090  | 0,15   | Non ferrous                     |
|     |                           | 0.24  | 0.0022 | 0.0026 | 0.0036 | 0.0060 |                                 |
| K7  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,050  | 0,060  | 0,085  | 0,13   | Non ferrous                     |
|     |                           | 0.24  | 0.0020 | 0.0024 | 0.0034 | 0.0050 |                                 |
| N1  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,080  | 0,095  | 0,13   | 0,20   | Hard                            |
|     |                           | 0.24  | 0.0032 | 0.0038 | 0.0050 | 0.0080 |                                 |
| N2  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,080  | 0,095  | 0,13   | 0,20   | Hard                            |
|     |                           | 0.24  | 0.0032 | 0.0038 | 0.0050 | 0.0080 |                                 |
| N3  | MM16-16016-B90PF-M03 F15M | 6,0   | 0,080  | 0,095  | 0,13   | 0,20   | Hard                            |
|     |                           | 0.24  | 0.0032 | 0.0038 | 0.0050 | 0.0080 |                                 |
| N11 | MM16-16016-B90PF-M03 F15M | 6,0   | 0,080  | 0,095  | 0,13   | 0,20   | Hard                            |
|     |                           | 0.24  | 0.0032 | 0.0038 | 0.0050 | 0.0080 |                                 |
| S1  | MM16-16016-B90PF-M03 F15M | 3,5   | 0,040  | 0,046  | 0,065  | 0,10   | Graphite                        |
|     |                           | 0.14  | 0.0016 | 0.0019 | 0.0026 | 0.0040 |                                 |
| S2  | MM16-16016-B90PF-M03 F15M | 3,5   | 0,040  | 0,046  | 0,065  | 0,10   | Graphite                        |
|     |                           | 0.14  | 0.0016 | 0.0019 | 0.0026 | 0.0040 |                                 |
| S3  | MM16-16016-B90PF-M03 F15M | 3,5   | 0,038  | 0,044  | 0,060  | 0,095  | Graphite                        |
|     |                           | 0.14  | 0.0015 | 0.0017 | 0.0024 | 0.0038 |                                 |
| S11 | MM16-16016-B90PF-M03 F15M | 4,0   | 0,046  | 0,055  | 0,075  | 0,12   | Graphite                        |
|     |                           | 0.16  | 0.0018 | 0.0022 | 0.0030 | 0.0048 |                                 |
| S12 | MM16-16016-B90PF-M03 F15M | 4,0   | 0,046  | 0,055  | 0,075  | 0,12   | Graphite                        |
|     |                           | 0.16  | 0.0018 | 0.0022 | 0.0030 | 0.0048 |                                 |
| S13 | MM16-16016-B90PF-M03 F15M | 3,5   | 0,040  | 0,046  | 0,065  | 0,10   | X-Heads                         |
|     |                           | 0.14  | 0.0016 | 0.0019 | 0.0026 | 0.0040 |                                 |
| H5  | MM16-16016-B90PF-M03 F15M | 4,5   | 0,038  | 0,046  | 0,060  | 0,10   | X-Heads                         |
|     |                           | 0.18  | 0.0015 | 0.0018 | 0.0024 | 0.0040 |                                 |
| H8  | MM16-16016-B90PF-M03 F15M | 4,0   | 0,030  | 0,034  | 0,048  | 0,075  | X-Heads                         |
|     |                           | 0.16  | 0.0012 | 0.0014 | 0.0019 | 0.0030 |                                 |
| H11 | MM16-16016-B90PF-M03 F15M | 4,5   | 0,038  | 0,046  | 0,060  | 0,10   | X-Heads                         |
|     |                           | 0.18  | 0.0015 | 0.0018 | 0.0024 | 0.0040 |                                 |
| H12 | MM16-16016-B90PF-M03 F15M | 4,0   | 0,030  | 0,034  | 0,048  | 0,075  | X-Heads                         |
|     |                           | 0.16  | 0.0012 | 0.0014 | 0.0019 | 0.0030 |                                 |
| H21 | MM16-16016-B90PF-M03 F15M | 4,0   | 0,030  | 0,034  | 0,048  | 0,075  | Minimaster                      |
|     |                           | 0.16  | 0.0012 | 0.0014 | 0.0019 | 0.0030 |                                 |

SMG = Seco material group

 $f_z$  = mm/tooth (in/tooth),  $v_c$  = m/min (sf/min),  $a_e/DC$  = %

All cutting data are start values

MM16 Z2 – Copy milling – Cutting data  $v_c = (m/min)/(sf/min)$ 

|                                 | SMG | F15M |      |      |      |      | F30M |      |      |      |      | T60M |      |      |      |      |
|---------------------------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|                                 |     | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   | 100% | 20%  | 10%  | 5%   | 2%   |
| Universal                       | P1  | 285  | 360  | 390  | 420  | 415  | 225  | 280  | 300  | 325  | 325  | 185  | 225  | 245  | 265  | 265  |
|                                 |     | 940  | 1175 | 1275 | 1375 | 1350 | 740  | 920  | 980  | 1075 | 1075 | 610  | 740  | 800  | 870  | 870  |
| Steel and cast iron             | P2  | 275  | 350  | 375  | 405  | 405  | 220  | 270  | 295  | 315  | 315  | 180  | 220  | 240  | 255  | 255  |
|                                 |     | 900  | 1150 | 1225 | 1325 | 1325 | 720  | 890  | 970  | 1025 | 1025 | 590  | 720  | 790  | 840  | 840  |
|                                 | P3  | 240  | 305  | 325  | 355  | 355  | 190  | 240  | 255  | 280  | 275  | 155  | 195  | 210  | 225  | 225  |
|                                 |     | 790  | 1000 | 1075 | 1175 | 1175 | 620  | 790  | 840  | 920  | 900  | 510  | 640  | 690  | 740  | 740  |
|                                 | P4  | 215  | 270  | 285  | 310  | 310  | 170  | 210  | 225  | 245  | 245  | 140  | 170  | 185  | 200  | 195  |
|                                 |     | 710  | 890  | 940  | 1025 | 1025 | 560  | 690  | 740  | 800  | 800  | 460  | 560  | 610  | 660  | 640  |
|                                 | P5  | 205  | 255  | 275  | 300  | 295  | 165  | 200  | 220  | 235  | 230  | 130  | 160  | 175  | 190  | 190  |
|                                 |     | 670  | 840  | 900  | 980  | 970  | 540  | 660  | 720  | 770  | 750  | 425  | 520  | 570  | 620  | 620  |
|                                 | P6  | 230  | 290  | 310  | 335  | 335  | 180  | 225  | 245  | 265  | 265  | 150  | 180  | 200  | 215  | 215  |
|                                 |     | 750  | 950  | 1025 | 1100 | 1100 | 590  | 740  | 800  | 870  | 870  | 490  | 590  | 660  | 710  | 710  |
| Stainless steel and S-materials | P7  | 215  | 275  | 290  | 315  | 315  | 170  | 210  | 230  | 250  | 250  | 140  | 170  | 190  | 200  | 200  |
|                                 |     | 710  | 900  | 950  | 1025 | 1025 | 560  | 690  | 750  | 820  | 820  | 460  | 560  | 620  | 660  | 660  |
|                                 | P8  | 200  | 255  | 275  | 295  | 295  | 160  | 200  | 215  | 235  | 230  | 130  | 160  | 175  | 190  | 190  |
|                                 |     | 660  | 840  | 900  | 970  | 970  | 520  | 660  | 710  | 770  | 750  | 425  | 520  | 570  | 620  | 620  |
|                                 | P11 | 210  | 265  | 285  | 310  | 310  | 165  | 205  | 225  | 240  | 240  | 135  | 165  | 180  | 195  | 195  |
|                                 |     | 690  | 870  | 940  | 1025 | 1025 | 540  | 670  | 740  | 790  | 790  | 445  | 540  | 590  | 640  | 640  |
|                                 | P12 | 135  | 175  | 175  | 190  | 190  | 110  | 140  | 145  | 155  | 155  | 90   | 110  | 115  | 125  | 125  |
|                                 |     | 445  | 570  | 590  | 620  | 620  | 360  | 460  | 475  | 510  | 510  | 295  | 360  | 375  | 410  | 410  |
| Non ferrous                     | M1  | 225  | 285  | 300  | 330  | 325  | 175  | 220  | 235  | 255  | 250  | 145  | 180  | 190  | 205  | 205  |
|                                 |     | 740  | 940  | 980  | 1075 | 1075 | 570  | 720  | 770  | 840  | 820  | 475  | 590  | 620  | 670  | 670  |
|                                 | M2  | 185  | 230  | 250  | 270  | 265  | 145  | 180  | 195  | 210  | 210  | 120  | 145  | 160  | 170  | 170  |
|                                 |     | 610  | 750  | 820  | 890  | 870  | 475  | 590  | 640  | 690  | 690  | 395  | 475  | 520  | 560  | 560  |
|                                 | M3  | 150  | 190  | 195  | 210  | 210  | 120  | 150  | 155  | 170  | 170  | 95   | 125  | 125  | 135  | 135  |
|                                 |     | 490  | 620  | 660  | 690  | 690  | 395  | 490  | 520  | 560  | 560  | 310  | 410  | 425  | 445  | 445  |
|                                 | M4  | 115  | 150  | 150  | 160  | 160  | 95   | 125  | 120  | 130  | 130  | 75   | 100  | 95   | 105  | 105  |
|                                 |     | 375  | 490  | 520  | 520  | 520  | 310  | 410  | 425  | 425  | 425  | 245  | 330  | 345  | 345  | 345  |
|                                 | M5  | 95   | 125  | 125  | 135  | 135  | 80   | 100  | 100  | 110  | 110  | 65   | 85   | 80   | 90   | 85   |
|                                 |     | 310  | 410  | 445  | 445  | 445  | 260  | 330  | 345  | 360  | 360  | 215  | 280  | 280  | 295  | 280  |
| Hard                            | K1  | 220  | 280  | 295  | 320  | 320  | 175  | 215  | 235  | 250  | 250  | 140  | 175  | 190  | 205  | 200  |
|                                 |     | 720  | 920  | 970  | 1050 | 1050 | 570  | 710  | 770  | 820  | 820  | 460  | 570  | 620  | 670  | 660  |
|                                 | K2  | 195  | 245  | 260  | 285  | 280  | 155  | 190  | 210  | 220  | 220  | 125  | 155  | 170  | 180  | 180  |
|                                 |     | 640  | 800  | 850  | 940  | 920  | 510  | 620  | 690  | 720  | 720  | 410  | 510  | 560  | 590  | 590  |
|                                 | K3  | 165  | 205  | 220  | 240  | 240  | 130  | 160  | 175  | 190  | 185  | 105  | 130  | 140  | 150  | 150  |
|                                 |     | 540  | 670  | 720  | 790  | 790  | 425  | 520  | 570  | 620  | 610  | 345  | 425  | 460  | 490  | 490  |
| Plastic and cfrp                | K4  | 155  | 195  | 210  | 230  | 225  | 125  | 155  | 170  | 180  | 180  | 100  | 125  | 135  | 145  | 145  |
|                                 |     | 510  | 640  | 690  | 750  | 740  | 410  | 510  | 560  | 590  | 590  | 330  | 410  | 445  | 475  | 475  |
|                                 | K5  | 95   | 120  | 125  | 135  | 140  | 75   | 95   | 100  | 110  | 110  | 60   | 75   | 80   | 90   | 90   |
|                                 |     | 310  | 395  | 410  | 445  | 460  | 245  | 310  | 330  | 360  | 360  | 195  | 245  | 260  | 295  | 295  |
|                                 | K6  | 135  | 175  | 185  | 200  | 200  | 110  | 135  | 150  | 160  | 155  | 90   | 110  | 120  | 130  | 125  |
|                                 |     | 445  | 570  | 610  | 660  | 660  | 360  | 445  | 490  | 520  | 510  | 295  | 360  | 395  | 425  | 410  |
|                                 | K7  | 120  | 150  | 165  | 175  | 175  | 95   | 120  | 130  | 140  | 140  | 80   | 95   | 105  | 115  | 115  |
|                                 |     | 395  | 490  | 540  | 570  | 570  | 310  | 395  | 425  | 460  | 460  | 260  | 310  | 345  | 375  | 375  |
| Graphite                        | N1  | 1675 | 2125 | 2250 | 2450 | 2450 | 1300 | 1625 | 1725 | 1875 | 1850 | 1050 | 1325 | 1400 | 1525 | 1500 |
|                                 |     | 5500 | 6975 | 7375 | 8050 | 8050 | 4275 | 5325 | 5650 | 6150 | 6075 | 3450 | 4350 | 4600 | 5000 | 4925 |
|                                 | N2  | 680  | 860  | 910  | 990  | 990  | 530  | 660  | 700  | 760  | 750  | 425  | 530  | 570  | 620  | 610  |
|                                 |     | 2225 | 2825 | 2975 | 3250 | 3250 | 1750 | 2175 | 2300 | 2500 | 2450 | 1400 | 1750 | 1875 | 2025 | 2000 |
|                                 | N3  | 450  | 570  | 610  | 660  | 660  | 350  | 435  | 465  | 510  | 500  | 285  | 355  | 380  | 410  | 405  |
|                                 |     | 1475 | 1875 | 2000 | 2175 | 2175 | 1150 | 1425 | 1525 | 1675 | 1650 | 940  | 1175 | 1250 | 1350 | 1325 |
|                                 | N11 | 520  | 650  | 690  | 750  | 760  | 400  | 500  | 530  | 580  | 570  | 325  | 405  | 430  | 470  | 465  |
|                                 |     | 1700 | 2125 | 2275 | 2450 | 2500 | 1300 | 1650 | 1750 | 1900 | 1875 | 1075 | 1325 | 1400 | 1550 | 1525 |
| X-Heads                         | S1  | 55   | 70   | 70   | 75   | 75   | 44   | 55   | 55   | 60   | 60   | 36   | 46   | 45   | 49   | 49   |
|                                 |     | 180  | 230  | 245  | 245  | 245  | 145  | 180  | 195  | 195  | 195  | 120  | 150  | 160  | 160  | 160  |
|                                 | S2  | 44   | 55   | 55   | 60   | 60   | 35   | 46   | 45   | 49   | 49   | 29   | 37   | 36   | 40   | 39   |
|                                 |     | 145  | 180  | 195  | 195  | 195  | 115  | 150  | 155  | 160  | 160  | 95   | 120  | 130  | 130  | 130  |
|                                 | S3  | 38   | 49   | 48   | 50   | 50   | 31   | 40   | 39   | 43   | 43   | 25   | 32   | 32   | 35   | 35   |
|                                 |     | 125  | 160  | 165  | 165  | 165  | 100  | 130  | 140  | 140  | 140  | 80   | 105  | 110  | 115  | 115  |
|                                 | S11 | 75   | 100  | 100  | 105  | 105  | 60   | 80   | 80   | 85   | 85   | 50   | 65   | 65   | 70   | 70   |
|                                 |     | 245  | 330  | 345  | 345  | 345  | 195  | 260  | 260  | 280  | 280  | 165  | 215  | 215  | 230  | 230  |
|                                 | S12 | 55   | 70   | 70   | 75   | 75   | 43   | 55   | 55   | 60   | 60   | 35   | 44   | 44   | 48   | 48   |
|                                 |     | 180  | 230  | 230  | 245  | 245  | 140  | 180  | 180  | 195  | 195  | 115  | 145  | 150  | 155  | 155  |
| Minimaster                      | S13 | 31   | 39   | 39   | 42   | 42   | 25   | 32   | 31   | 34   | 34   | 20   | 26   | 25   | 28   | 28   |
|                                 |     | 100  | 130  | 140  | 140  | 140  | 80   | 105  | 110  | 110  | 110  | 65   | 85   | 90   | 90   | 90   |
|                                 | H5  | 45   | 55   | 60   | 65   | 65   | 36   | 46   | 48   | 50   | 50   | 30   | 37   | 39   | 41   | 41   |
|                                 |     | 150  | 180  | 195  | 215  | 215  | 120  | 150  | 155  | 165  | 165  | 100  | 120  | 130  | 135  | 135  |
|                                 | H8  | 46   | 60   | 60   | 65   | 65   | 39   | 50   | 50   | 55   | 55   | 31   | 40   | 40   | 44   | 43   |
|                                 |     | 150  | 195  | 215  | 215  | 215  | 130  | 165  | 165  | 180  | 180  | 100  | 130  | 140  | 145  | 140  |
|                                 | H11 | 55   | 75   | 75   | 80   | 80   | 46   | 60   | 60   | 65   | 65   | 38   | 47   | 49   | 55   | 50   |
|                                 |     | 180  | 245  | 245  | 260  | 260  | 150  | 195  | 195  | 215  | 215  | 125  | 155  | 165  | 180  | 165  |
|                                 | H12 | 85   | 105  | 105  | 115  | 115  | 70   | 90   | 90   | 95   | 95   | 55   | 70   | 70   | 80   | 80   |
|                                 |     | 280  | 345  | 375  | 375  | 375  | 230  | 295  | 310  | 310  | 310  | 180  | 230  | 245  | 260  | 260  |
|                                 | H21 | 46   | 60   | 60   | 65   | 65   | 39   | 50   | 50   | 55   | 55   | 31   | 40   | 40   | 44   | 43   |
|                                 |     | 150  | 195  | 215  | 215  | 215  | 130  | 165  | 165  | 180  | 180  | 100  | 130  | 140  | 145  | 140  |

### Torque wrench and Max RPM information

#### Torque wrench

Recommended RPM for all Seco cutters are shown on each catalogue page.  
Normally there is no need for balancing tools for RPM up to 10 000.  
However in some cases balancing is necessary, for instance when using heavy tools and tool holders in small machines



Torque wrench with fixed torque values to ensure the correct tightening force when mounting the Minimaster insert into its holder.  
Dynamomentic keys are calibrated according to ISO 6789.

Code key: MM02-4006

MM02 = 2-flute (MM03 = 3-flute)

40 = Torque value 4 Nm

06 = Insert size

Over 10 000 RPM:

We recommend balancing of tool and tool holders at least separately.

Over 20 000 RPM:

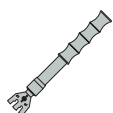
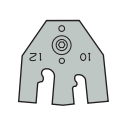
Both tool and tool holders must be balanced at least separately.

Over 30 000 RPM:

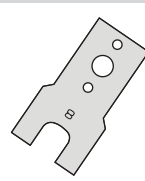
Tool and tool holders must be balanced as a unit.

The max RPM in the tables should never be exceeded.)

#### 2 flute inserts

| Insert size      | Torque wrench (including key end)                                                  | Replaceable key end                                                                | Torque value |
|------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------|
|                  |  |  |              |
| MM06             | MM02-4006                                                                          | MM02-06                                                                            | 4 Nm         |
| MM08             | MM02-8008                                                                          | MM02-08                                                                            | 8 Nm         |
| MM10             | MM02-1201012                                                                       | MM02-1012                                                                          | 12 Nm        |
| MM12             | MM02-1201012                                                                       | MM02-1012                                                                          | 12 Nm        |
| MM12 DC= Ø 14,0  | MM02-16014                                                                         | MM02-14                                                                            | 16 Nm        |
| MM12 DCX= Ø 16,0 | MM02-1601620                                                                       | MM02-1620                                                                          | 16 Nm        |
| MM16             | MM02-1601620                                                                       | MM02-1620                                                                          | 16 Nm        |

#### 3 flute inserts

| Insert size | Torque wrench (including key end)                                                   | Replaceable key end                                                                 | Torque value |
|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------|
|             |  |  |              |
| MM06        | MM03-4006                                                                           | MM03-06                                                                             | 4 Nm         |
| MM08        | MM03-8008                                                                           | MM03-08                                                                             | 8 Nm         |
| MM10        | MM03-1201012                                                                        | MM03-1012                                                                           | 12 Nm        |
| MM12        | MM03-1201012                                                                        | MM03-1012                                                                           | 12 Nm        |
| MM16        | MM03-16016                                                                          | MM03-16                                                                             | 16 Nm        |

Universal

Steel and cast iron

Stainless steel and S-materials

Stainless steel and S-materials

Non ferrous

Hard

Graphite

X-Heads

Minimaster

Universal

Steel and cast  
iron

Stainless steel  
and S-materials

Non ferrous

Hard

Plastic and cfrp

Graphite

X-Heads

Minimaster



## SMG – Introduction



The foundation for SMG is a classification of workpiece materials based on their type rather than their relative machinability and consequently it contains workpiece materials like composites. It is comprehensive enough, but still easy to identify which SMG a particular material belongs.

Each SMG has a specific material standard in a specific condition assigned as reference to allow easy adjustment of cutting data for any actual material compared to any Seco reference material see page(s) 802-805.

As example the reference materials EN C45E for SMG P4 and EN 42 CrMo 4 for both SMG P5 and SMG H5 see further details in the following tables.

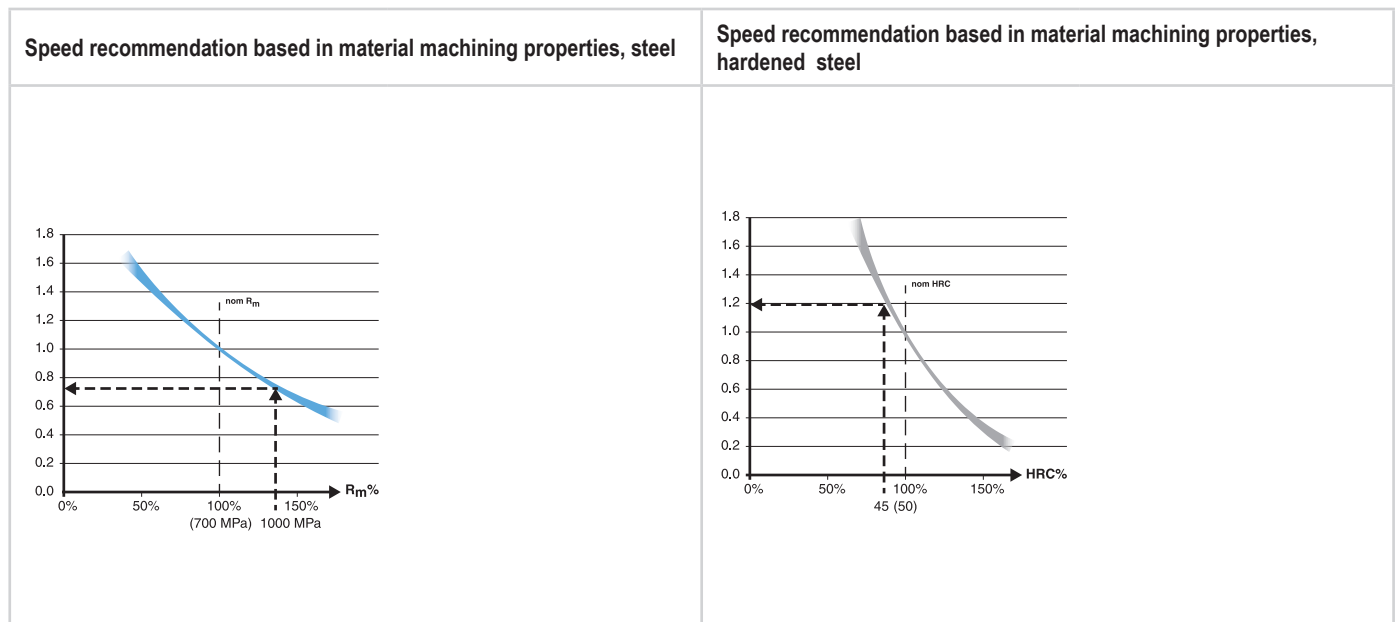
|    |                                                                                              |                             |                                                     |    |                            |               |                     |
|----|----------------------------------------------------------------------------------------------|-----------------------------|-----------------------------------------------------|----|----------------------------|---------------|---------------------|
| P4 | Low-alloy general structural steels, 0.25% < C < 0.67%wt<br>Low-alloy Quench & Temper steels | 520 < R <sub>m</sub> < 1200 | C 45E<br>R <sub>m</sub> = 660 N/mm <sup>2</sup>     | H5 | Quenched & Tempered steels | 38 < HRC < 56 | 42 CrMo 4<br>50 HRC |
| P5 | Structural steels, 0.25% < C < 0.67%wt<br>Quench & Temper steels                             | 550 < R <sub>m</sub> < 1200 | 42 CrMo 4<br>R <sub>m</sub> = 700 N/mm <sup>2</sup> |    |                            |               |                     |

Focusing specifically on EN 42 CrMo 4 in annealed condition, the ultimate tensile strength R<sub>m</sub> may typically vary between R<sub>m</sub> = 630 N/mm<sup>2</sup> and R<sub>m</sub> = 780 N/mm<sup>2</sup>, which provide a reference level for SMG P5. In Quenched & Tempered condition, the ultimate tensile strength R<sub>m</sub> may typically be between R<sub>m</sub> = 900 N/mm<sup>2</sup> and R<sub>m</sub> = 1100 N/mm<sup>2</sup> thus still belongs to SMG P5. However, if hardened above R<sub>m</sub> = 1200 N/mm<sup>2</sup> it instead belongs to SMG H5.

|    |           |        |         |          |           |             |            |      |                     |      |    |
|----|-----------|--------|---------|----------|-----------|-------------|------------|------|---------------------|------|----|
| P5 | 42 CrMo 4 | 1.1201 | 42 CD 4 | 708 M 40 | 42 CrMo 4 | SCM 440 (H) | 4142, 4140 | 38HM | Annealed            | 700  |    |
|    | 42 CrMo 4 | 1.1201 | 42 CD 4 | 708 M 40 | 42 CrMo 4 | SCM 440 (H) | 4142, 4140 | 38HM | Quenched & Tempered | 1000 |    |
| H5 | 42 CrMo 4 | 1.1201 | 42 CD 4 | 708 M 40 | 42 CrMo 4 | SCM 440 (H) | 4142, 4140 | 38HM | Quenched & Tempered |      | 45 |
|    | 42 CrMo 4 | 1.1201 | 42 CD 4 | 708 M 40 | 42 CrMo 4 | SCM 440 (H) | 4142, 4140 | 38HM | Quenched & Tempered |      | 50 |

The EN 42CrMo4 quench & tempered steel could be used to illustrate the machinability dependence of materials' condition.

The graphs below indicate how speed recommendations for a nominal material conditions may be adjusted for relative R<sub>m</sub> (left diagram valid for ISO-P) and for relative HRC (valid for ISO-H).



To further illustrate how the SMG P5 nominal v<sub>c</sub> can be adjusted to a more accurate recommended v<sub>c</sub> we need ultimate tensile strength R<sub>m</sub> data and in this case we use the EN 42 CrMo 4 quenched & tempered to R<sub>m</sub> = 1000 N/mm<sup>2</sup> according to above table (bold blue arrows).

Assume that we find that the SMG P5 nominal v<sub>c</sub> = 280 m/min / 918.64 sfm for a certain product and machining.

Then, actual recommended v<sub>c</sub> = 280 m/min x 0.75 = 210 m/min / v<sub>c</sub> = 918.64 sfm x 0.75 = 688.98 sfm.

Consequently in the SMG H5 the nominal v<sub>c</sub> can be adjusted using the hardened EN 42 CrMo 4 at HRC 45 (smaller grey arrows).

Assume that the SMG H5 nominal v<sub>c</sub> = 50 m/min / 164.04 sfm for a certain product and machining using a coated cemented carbide tools then, actual recommended v<sub>c</sub> = 50 m/min x 1.2 = 60 m/min / v<sub>c</sub> = 164.04 sfm x 1.2 = 196.85 sfm.

For further workpiece material details please see page(s) 806 - 813 and suggested cutting data at applicable pages.

For more convenient cutting data handling we recommend applicable tools in My Pages – on [www.secotools.com](http://www.secotools.com)

These cutting data compensations for steels are fully implemented at [www.secotools.com](http://www.secotools.com) in MyPages (see QR-code in the upper right corner).

**Steels, ferritic and martensitic stainless steels**

| SMG | Description                                                                                                                 | Properties         | Reference                                        | $k_{c1.1}$ | $m_c$ |
|-----|-----------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------|------------|-------|
| P1  | Free-cutting steels                                                                                                         | $360 < R_m < 880$  | 11 SMn30<br>$R_m = 385 \text{ N/mm}^2$           | 1500       | 0,14  |
| P2  | Low-alloy ferritic steels,<br>$C < 0.25\% \text{wt}$<br>Low-alloy weldable general structural steels                        | $320 < R_m < 600$  | S235JRG2<br>$R_m = 420 \text{ N/mm}^2$           | 1600       | 0,23  |
| P3  | Ferritic & ferritic/pearlitic steels, $C < 0.25\% \text{wt}$<br>Weldable general structural steels<br>Case-hardening steels | $430 < R_m < 610$  | 16 MnCr 5<br>$R_m = 550 \text{ N/mm}^2$          | 1800       | 0,14  |
| P4  | Low-alloy general structural steels, $0.25\% < C < 0.67\% \text{wt}$<br>Low-alloy Quench & Temper steels                    | $520 < R_m < 1200$ | C 45E<br>$R_m = 660 \text{ N/mm}^2$              | 2000       | 0,15  |
| P5  | Structural steels, $0.25\% < C < 0.67\% \text{wt}$<br>Quench & Temper steels                                                | $550 < R_m < 1200$ | 42 CrMo 4<br>$R_m = 700 \text{ N/mm}^2$          | 2020       | 0,18  |
| P6  | Low-alloy through-hardening steels, $C > 0.67\% \text{wt}$<br>Low-alloy spring and bearing steels                           | $520 < R_m < 1200$ | C 100S<br>$R_m = 600 \text{ N/mm}^2$             | 2100       | 0,17  |
| P7  | Through-hardening steels, $C > 0.67\% \text{wt}$<br>Spring and bearing steels                                               | $600 < R_m < 1200$ | 100 Cr 6<br>$R_m = 650 \text{ N/mm}^2$           | 2160       | 0,17  |
| P8  | Tool steels<br>High Speed Steels (HSS)                                                                                      | $600 < R_m < 1200$ | X 40 CrMoV 5 1<br>$R_m = 700 \text{ N/mm}^2$     | 2400       | 0,20  |
| P11 | Ferritic & martensitic stainless steels                                                                                     | $415 < R_m < 1200$ | X 20 Cr 13<br>$R_m = 675 \text{ N/mm}^2$         | 2000       | 0,15  |
| P12 | Maraging and precipitation-hardening stainless steels                                                                       | $500 < R_m < 1200$ | X 5 CrNiCuNb 16 4<br>$R_m = 1100 \text{ N/mm}^2$ | 2100       | 0,17  |

**Free-cutting, austenitic and duplex stainless steels**

| SMG | Description                                                 | Properties | Reference          | $k_{c1.1}$ | $m_c$ |
|-----|-------------------------------------------------------------|------------|--------------------|------------|-------|
| M1  | Free-cutting austenitic stainless steels                    |            | X 10 CrNiS 18 9    | 1700       | 0,14  |
| M2  | Low-alloy austenitic stainless steels                       |            | X 5 CrNi 18 10     | 1920       | 0,18  |
| M3  | Medium-alloy austenitic stainless steels                    |            | X 2 CrNiMo 18 14 3 | 2070       | 0,17  |
| M4  | High-alloy austenitic and duplex stainless steels           |            | X 2 CrNiMoN 22 5 3 | 2230       | 0,16  |
| M5  | Difficult high-alloy austenitic and duplex stainless steels |            | X 2 CrNiMoN 25 7 4 | 2510       | 0,13  |



## Cast irons

| SMG | Description                     | Properties | Reference             | $k_{c1.1}$ | $m_c$ |
|-----|---------------------------------|------------|-----------------------|------------|-------|
| K1  | Grey cast irons (GCI)           |            | EN-GJL-250            | 930        | 0,32  |
| K2  | Compacted graphite irons (CGI)  |            | EN-GJV-400            | 1000       | 0,35  |
| K3  | Malleable cast irons (MCI)      |            | EN-GJMB-550-4         | 1050       | 0,37  |
| K4  | Nodular cast irons (SGI)        |            | EN-GJS-500-7          | 1160       | 0,37  |
| K5  | Austempered ductile irons (ADI) |            | EN-GJS-1000-5         | 0          |       |
| K6  | Austenitic lamellar cast irons  |            | EN-GJLA-XNiCuCr15-6-2 | 0          |       |
| K7  | Austenitic nodular cast irons   |            | EN-GJSA-XNiMn23-4     | 0          |       |

## Non-ferrous metals

| SMG | Description                     | Properties | Reference            | $k_{c1.1}$ | $m_c$ |
|-----|---------------------------------|------------|----------------------|------------|-------|
| N1  | Aluminium alloys, Si < 9%       |            | AW-7075              | 0          |       |
| N2  | Aluminium alloys, 9% < Si < 16% |            | AC-44200<br>Si = 12% | 0          |       |
| N3  | Aluminium alloys, Si > 16%      |            | AlSi17Cu5            | 0          |       |
| N11 | Copper alloys                   |            | CW614N               | 740        | 0,26  |

## Superalloys and titanium

| SMG | Description                                         | Properties | Reference   | $k_{c1.1}$ | $m_c$ |
|-----|-----------------------------------------------------|------------|-------------|------------|-------|
| S1  | Iron-based superalloys                              |            | Discalloy   | 0          |       |
| S2  | Cobalt-based superalloys                            |            | Stellite 21 | 0          |       |
| S3  | Nickel-based superalloys                            |            | Inconel 718 | 2530       | 0,21  |
| S11 | Titanium, low alloyed, ( $\alpha$ )                 |            | Ti          | 0          |       |
| S12 | Titanium, medium alloyed, ( $\alpha+\beta$ )        |            | TiAl6V4     | 1500       | 0,24  |
| S13 | Titanium, high alloyed, (near $\beta$ and $\beta$ ) |            | Ti10V2Fe3Al | 0          |       |

## Hard materials

| SMG | Description                                         | Properties          | Reference                                        | $k_{c1.1}$ | $m_c$ |
|-----|-----------------------------------------------------|---------------------|--------------------------------------------------|------------|-------|
| H3  | Case-hardened steels                                | 58 < HRC < 62       | 16 MnCr 5<br>60 HRC                              | 2070       | 0,14  |
| H5  | Quenched & Tempered steels                          | 38 < HRC < 56       | 42 CrMo 4<br>50 HRC                              | 2320       | 0,18  |
| H7  | Quenched & Tempered steels<br>Bearing steels        | 56 < HRC < 64       | 100 Cr 6<br>60 HRC                               | 2480       | 0,17  |
| H8  | Tool steels<br>High Speed Steels (HSS)              | 38 < HRC < 64       | X 40 CrMoV 5 1<br>50 HRC                         | 2750       | 0,20  |
| H11 | Martensitic stainless steels                        | 38 < HRC < 50       | X 20 Cr 13<br>45 HRC                             | 2300       | 0,15  |
| H12 | Maraged and precipitation-hardened stainless steels | 1200 < $R_m$ < 1650 | X 5 CrNiCuNb 16 4<br>$R_m = 1450 \text{ N/mm}^2$ | 2410       | 0,17  |
| H21 | Manganese steels                                    | 23 < HRC < 64       | X 120 Mn 12<br>50 HRC                            | 0          |       |
| H31 | White cast irons                                    | 50 < HRC < 64       | EN-GJN-HV600(XCr11)<br>55 HRC                    | 0          |       |

## Other difficult materials

| SMG | Description                                                                           | Properties | Reference                                | $k_{c1.1}$ | $m_c$ |
|-----|---------------------------------------------------------------------------------------|------------|------------------------------------------|------------|-------|
| PM1 | Low-alloy PM-materials                                                                |            | F-0008 Fe-0.7C                           | 0          |       |
| PM2 | Medium-alloy PM-materials                                                             |            | FLC-4608<br>Fe2Cu1.8Ni<br>0.5Mo0.2Mn0.8C | 0          |       |
| PM3 | High-alloy PM-materials<br>Exhaust valve seat materials,<br>etc.                      |            |                                          | 0          |       |
| HF1 | Hardfacing alloys<br>Welded or plasma-deposited<br>iron-based alloys                  |            |                                          | 0          |       |
| HF2 | Hardfacing alloys<br>Welded or plasma-deposited<br>cobalt- and nickel-based<br>alloys |            |                                          | 0          |       |
| CC1 | Sintered tungsten carbide                                                             |            | G50                                      | 0          |       |

## Plastics and Composites

| SMG | Description                            | Properties | Reference                                 | $k_{c1.1}$ | $m_c$ |
|-----|----------------------------------------|------------|-------------------------------------------|------------|-------|
| TS1 | Thermosetting polymers                 |            | Urea formaldehyde (UF)                    | 0          |       |
| TS2 | Thermosetting carbon-fibre composites  |            | T300 T700 T800 HTA-S IMA - Epoxy (M21)... | 0          |       |
| TS3 | Thermosetting glass-fibre composites   |            | Epoxy - HX..(42..)/E glass (7781...)...   | 0          |       |
| TS4 | Thermosetting aramide-fibre composites |            | Kevlar 49                                 | 0          |       |
| TP1 | Thermoplastic polymers                 |            | Polycarbonate (PC)                        | 0          |       |
| TP2 | Thermoplastic carbon-fibre composites  |            | PPS/PEEK - T300..                         | 0          |       |
| TP3 | Thermoplastic glass-fibre composites   |            | PPS/PEEK - E-glass or A-glass...          | 0          |       |
| TP4 | Thermoplastic aramide-fibre composites |            |                                           | 0          |       |

## Graphite

| SMG | Description | Properties | Reference | $k_{c1.1}$ | $m_c$ |
|-----|-------------|------------|-----------|------------|-------|
| GR1 | Graphite    |            | R 8500    | 0          |       |

| SMG | EN             | EN-Nr  | W.-Nr  | DIN           | AFNOR          | BS              | UNI              | JIS             | SS         | UNS    |
|-----|----------------|--------|--------|---------------|----------------|-----------------|------------------|-----------------|------------|--------|
| P1  | 11 SMn 30      | 1.0715 | 1.0715 | 9 SMn 28      | S 250          | 230 M 07        | CF 9 SMn 28      | SUM 22          | 1912       | G12130 |
|     | 11 SMnPb 30    | 1.0718 | 1.0718 | 9 SMnPb 28    | S 250 Pb       |                 | CF 9 SMnPb 28    | SUM 22 L        | 1914       | G12134 |
|     | 10 S 20        | 1.0721 | 1.0721 | 10 S 20       | 10 F 1         | 210 M 15        | CF 10 S 20       |                 |            |        |
|     |                |        | 1.0722 | 10 SPb 20     | 10 PbF 2       |                 | CF 10 SPb 20     |                 |            |        |
|     | 15 SMn 13      | 1.0725 | 1.0723 | 15 S 20       |                | 210 A 15        |                  | SUM 32          | 1922       |        |
|     | 35 S20         | 1.0726 | 1.0726 | 35 S 20       | 35 MF 4        | 212 M 36        |                  |                 | 1957       | G11400 |
|     | 46 S20         | 1.0727 | 1.0727 | 46 S 20       | 45 MF 4        | 212 M 44        |                  |                 | 1973       | G11460 |
|     | 11 SMn 37      | 1.0736 | 1.0736 | 9 SMn 36      | S 300          | 240 M 07        | CF 9 SMn 36      |                 |            | G12150 |
| P2  | 11 SMn 37      | 1.0736 | 1.0736 | 9 SMn 36      | S 300          | 240 M 07        | CF 9 SMn 36      |                 |            | G12150 |
|     | S235JR         | 1.0037 | 1.0037 | St 37-2       | E 24-2         |                 | Fe 360 B         | STKM 12 C       | 1311       |        |
|     | S235JRG2       | 1.0038 | 1.0116 | St 37-3       | E 24-3, E 24-4 | 4360-40 C       | Fe 360 D FF      |                 | 1312, 1313 |        |
|     | S275J2G3       | 1.0144 | 1.0144 | St 44-3 N     | E 28-3, E 28-4 | 4360-43 C       | Fe 430 D FF      | SM 41 C         | 1412, 1414 |        |
|     | C 10           | 1.0301 | 1.0301 | C 10          | 34 C 10, XC 10 | 045 M 10        | C 10             | S 10 C          |            | G10100 |
|     |                |        | 1.0401 | C 15          | 37 C 12, XC 18 | 080 M 15        | C 15, C 16       |                 | 1350       | G10170 |
|     | C22            | 1.0402 | 1.0402 | C 22          | C 20           | 050 A 20        | C 20, C 21       |                 | 1450       | G10200 |
|     | S355JR         | 1.0570 | 1.0570 | St 52-3       | E 36-3, E 36-4 | 4360-50 C       | Fe 510 B         | SM 50 YA        | 2172, 2132 |        |
| P3  | C 15R          | 1.1141 | 1.1141 | Ck 15         | XC 15, XC 18   | 080 M 15        | C 15, C 16       | S 15 C, S 15 CK | 1370       | G10170 |
|     |                |        | 1.1158 | Ck 25         | XC 25          | 060 A 25        | C 25             | S 25 C          |            | G10250 |
|     |                |        | 1.2162 | 21 MnCr 5     | 20 NC 5        |                 |                  | SCR 420 H       |            |        |
|     | 16 Mo 3        | 1.5415 | 1.5415 | 15 Mo 3       | 15 D 3         | 1501-240        | 16 Mo 3          |                 | 2912       |        |
|     |                |        | 1.5423 | 16 Mo 5       |                | 1503-245-420    | 16 Mo 5          | SB 450 M        |            | G45200 |
|     | 14 NiCr 14     | 1.5752 | 1.5752 | 14 NiCr 14    | 12 NC 15       | 655 M 13        |                  | SNC 815 (H)     |            | G33106 |
|     |                |        | 1.5919 | 15 CrNi 6     | 16 NC 6        | S 107           | 16 CrNi 4        |                 |            |        |
|     | 18 NiCrMo 7 6  | 1.6587 | 1.6587 | 18 CrNiMo 7 6 | 18 NCD 6       | 820 A 16        | 18 NiCrMo 7      |                 |            |        |
| P4  | 16 MnCr 5      | 1.7131 | 1.7131 | 16 MnCr 5     | 16 MC 5        | 527 M 17        | 16 MnCr 5        | SCR 415         | 2511       | G51170 |
|     | 16 MnCrS 5     | 1.7139 | 1.7139 | 16 MnCrS 5    |                |                 |                  |                 |            |        |
|     | 20 MnCr 5      | 1.7147 | 1.7147 | 20 MnCr 5     | 20 MC 5        |                 | 20 MnCr 5        | SMnC 420 (H)    |            | G51200 |
|     | 20 MnCrS 5     | 1.7149 | 1.7149 | 20 MnCrS 5    | 20 MnCrS 5     |                 |                  | SMnC 21 H       |            |        |
|     | 13 CrMo 4 5    | 1.7335 | 1.7335 | 13 CrMo 4 4   | 15 CD 3.5      | 1501-620 Gr. 27 | 14 CrMo 4 5      |                 | 2216       |        |
|     |                |        | 1.7337 | 16 CrMo 4 4   | 15 CD 4.5      | 1501-620 Gr. 27 | 14 CrMo 4 5      |                 | 2216       |        |
|     |                |        | 1.7380 | 10 CrMo 9 10  | 10 CD 9.10     | 1501-622 Gr. 31 | 12 CrMo 9 10     |                 | 2218       | J21890 |
|     | 10 CrMo 9 10   | 1.7380 | 1.7380 | 10 CrMo 9 10  |                |                 |                  |                 |            |        |
| P5  | C35            |        | 1.0501 | C 35          | 55 C 35        | 060 A 35        | C 35             |                 | 1550       | G10350 |
|     | E 335          | 1.0503 | 1.0503 | C 45          | 65 C 45        | 80 M 46         | C 45             | S 45 C          | 1650       | G10430 |
|     | C40            |        | 1.0511 | C 40          | 60 C 40        | 080 M 40        | C 40             | S 40 C          |            |        |
|     | E 360          | 1.0070 | 1.0535 | St 70-2       | A 70-2         |                 | Fe 690           |                 | 1655       |        |
|     | C60            | 1.0601 | 1.0601 | C 60          | CC 55          | 080 A 62        | C 60             |                 |            | G10600 |
|     |                |        | 1.1157 | 40 Mn 4       | 35 M 5         | 150 M 36        |                  |                 |            | G10390 |
|     | G 28 Mn6       | 1.1165 | 1.1165 | 30 Mn 5       |                | 120 M 36        |                  | SMn 1 H, SCMn 2 |            | G13300 |
|     | C 35E          | 1.1181 | 1.1181 | Ck 35         | XC 38 H1       | 080 M 36        | C 35             | S 35 C          | 1572       | G10340 |
| P6  | C 45E          | 1.1191 | 1.1191 | Ck 45         | XC 42          | 080 M 46        | C 45             | S 45 C          | 1672       | G10420 |
|     | C 60E          | 1.1221 | 1.1221 | Ck 60         | XC 60          | 080 A 62        | C 60             | S 58 C          | 1665, 1678 | G10640 |
|     |                |        | 1.1740 | C 60 W        | Y3 55          |                 |                  | SK 7            |            |        |
|     | 55 SiCr7       | 1.7100 | 1.0904 | 55 Si 7       | 55 S 7         | 250 A 53        | 55 Si 8          |                 | 2085, 2090 |        |
|     |                |        | 1.2330 | 35 CrMo 4     | 34 CD 4        | 708 A 37        | 35 CrMo 4        |                 | 2234       | T51620 |
|     |                |        | 1.2542 | 45 WCvV 7     |                | BS 1            | 45 WCvV 8 KU     |                 | 2710       | T41901 |
|     |                | 1.2714 | 1.2714 | 56 NiCrMoV 7  |                | BH 224-5        | 56 NiCrMoV7-KU   | SKT 4           |            | T61206 |
|     |                |        | 1.5121 | 46 MnSi 4     |                |                 |                  |                 |            |        |
| P5  |                |        | 1.5710 | 36 NiCr 6     | 35 NC 6        | 640 A 35        |                  | SNC 236         |            |        |
|     |                |        | 1.5736 | 36 NiCr 10    | 35 NC 11       |                 | 35 NiCr 9        | SNC 631 (H)     |            |        |
|     | 36 CrNiMo 4    |        | 1.6511 | 36 CrNiMo 4   | 40 NCD 3       | 816 M 40        | 38 NiCrMo 4 (KB) |                 |            | G98400 |
|     | 34 CrNiMo 6    | 1.6582 | 1.6582 | 34 CrNiMo 6   | 35 NCD 6       | 817 M 40        | 35 NiCrMo 6 (KW) | SNM 447         | 2541       | G43400 |
|     | 34 Cr 4        | 1.7033 | 1.7033 | 34 Cr 4       | 32 C 4         | 530 A 32        | 34 Cr 4 (KB)     | SCR 430 (H)     |            | G51320 |
|     | 41 Cr 4        | 1.7035 | 1.7035 | 41 Cr 4       | 42 C 4         | 530 M 40        | 41 Cr 4          | SCR 440 (H)     |            | G51400 |
|     | 25 CrMo 4      | 1.7218 | 1.7218 | 25 CrMo 4     | 25 CD 4 S      | 708 M 25        | 25 CrMo 4 (KB)   | SCM 425         | 2225       | G41300 |
|     | 42 CrMo 4      | 1.7225 | 1.7225 | 42 CrMo 4     | 42 CD 4        | 708 M 40        | 42 CrMo 4        | SCM 440 (H)     | 2244       | G41400 |
| P6  | 42 CrMo 4      | 1.7225 | 1.7225 | 42 CrMo 4     | 42 CD 4        | 708 M 40        | 42 CrMo 4        | SCM 440 (H)     | 2244       | G41400 |
|     |                |        | 1.7361 | 32 CrMo 12    | 30 CD 12       | 722 M 24        | 32 CrMo 12       |                 | 2240       |        |
|     | 50 CrV 4       | 1.8159 | 1.8159 | 50 CrV 4      | 50 CV 4        | 735 A 50        | 51 CrV 4         | SUP 10          | 2230       | H61500 |
|     | 41 CrAlMo 7 10 | 1.8509 | 1.8509 | 41 CrAlMo 7   | 40 CAD 6.12    | 905 M 39        | 41 CrAlMo 7      | SACM 645        | 2940       | K24065 |
|     | C 67S          | 1.1231 | 1.1231 | Ck 67         | XC 68          | 060 A 67        | C 70             |                 | 1770       | G10700 |
|     | C 100S         | 1.1274 | 1.1274 | Ck 101        |                | 060 A 96        |                  | SUP 4           | 1870       | G10950 |
|     | C 105U         | 1.1545 | 1.1545 | C 105 W1      | Y1 105         |                 | C 100 KU         | SK 3            | 1880       |        |
|     |                |        | 1.1645 | C 105 W2      | Y1 105         |                 | C 120 KU         | SK 2            |            |        |
| P6  |                |        | 1.1663 | C 125 W       | Y2 120         |                 |                  |                 |            |        |
|     |                |        |        |               |                |                 |                  |                 |            |        |

| U.N.E./ I.H.A. | AISI / ASTM         | GOST     | CSN    | Misc. Brands | Condition           | Structure |
|----------------|---------------------|----------|--------|--------------|---------------------|-----------|
|                | 1213                |          |        |              | Annealed            |           |
|                | 12 L 13             |          |        |              | Annealed            |           |
|                | 1108                |          |        |              | Annealed            |           |
|                | 11 L 08             |          |        |              | Annealed            |           |
|                |                     |          |        |              | Annealed            |           |
|                | 1140                | 40       |        |              | Annealed            |           |
|                | 1146                |          |        |              | Annealed            |           |
|                | 1215                |          |        |              | Annealed            |           |
|                | 12 L 14             |          |        |              | Annealed            |           |
|                |                     | 16D      |        |              | Annealed            |           |
|                | A573 Grade 58       | 18kp     | 11 378 |              | Annealed            |           |
|                | A573 Grade 70       | St14kP   | 11 448 |              | Annealed            |           |
|                | 1010                | 10       |        |              | Annealed            |           |
| F.1110         | 1015                | 15       |        |              | Annealed            |           |
|                | 1020, 1023          | 20       | 12 024 |              | Annealed            |           |
|                |                     | 17G1S    | 11 523 |              | Annealed            |           |
| F.1511         | 1015                | 15       |        |              | Annealed            |           |
| F.1120         | 1025                | 25       |        |              | Annealed            |           |
|                |                     |          |        |              | Annealed            |           |
|                | A204 Grade A        |          | 15 020 |              | Annealed            |           |
|                | 4520                |          |        |              | Annealed            |           |
|                | 3310, 9314          | 20X2H4A  | 16 420 |              | Annealed            |           |
|                | 4320                |          | 16 220 |              | Annealed            |           |
|                |                     |          |        |              | Annealed            |           |
| F.1516         | 5115                | 12KHN2   | 14 220 |              | Annealed            |           |
|                |                     | 18HG     |        |              | Annealed            |           |
|                | 5120                | 20KH     | 14 221 |              | Annealed            |           |
|                | 5120 H              | 20KH     |        |              | Annealed            |           |
|                | A182-F11, A182-F12  | 12KHM    | 15 121 |              | Annealed            |           |
|                | A387 Grade 12 Cl. 2 |          |        |              | Annealed            |           |
| F.155          | A182-F22            | 12KH8    | 15 313 |              | Annealed            |           |
| F.1130         | 1035                | 35       | 12 040 |              | Annealed            |           |
| F.5110         | 1045                | 45       | 12 050 |              | Annealed            |           |
|                | 1040                | 40       | 12 041 |              | Annealed            |           |
| F.1150         | 1055                | 55       |        |              | Annealed            |           |
|                | 1060                | 60       | 12 061 |              | Annealed            |           |
|                | 1039                | 40G      |        |              | Annealed            |           |
|                | 1330                | 30G2     |        |              | Annealed            |           |
| F.1135         | 1035                | 35       |        |              | Annealed            |           |
| F.1140         | 1045                | 45       | 12 050 |              | Annealed            |           |
| F.1150         | 1064                | 60       |        |              | Annealed            |           |
|                | 1060                | 60       |        |              | Annealed            |           |
| F.144          | 9255                | 55S2     |        |              | Annealed            |           |
| F.1250         | 4135                | 35KHM    |        |              | Annealed            |           |
| F.5241         | S1                  | 5KHV2S   |        |              | Annealed            |           |
|                | L6                  | 5KHNV    |        |              | Annealed            |           |
|                | 5045                |          |        |              | Annealed            |           |
|                | 3135                |          |        |              | Quenched & Tempered |           |
|                | 3435                |          |        |              | Annealed            |           |
|                | 9840                |          |        |              | Quenched & Tempered |           |
| F.1280         | 4340                | 38H2N2MA | 16 343 |              | Annealed            |           |
|                | 5132                | 35KH     |        |              | Quenched & Tempered |           |
|                | 5140                | 40H      | 14 140 |              | Quenched & Tempered |           |
| F.1251         | 4130                | 20KHM    | 15 130 |              | Quenched & Tempered |           |
| F.1252         | 4142, 4140          | 38HM     | 15 142 |              | Annealed            |           |
| F.1252         | 4142, 4140          | 38HM     | 15 142 |              | Quenched & Tempered |           |
|                |                     |          |        |              | Quenched & Tempered |           |
| F.143          | 6150                | 50KHFA   | 15 260 |              | Quenched & Tempered |           |
| F.1740         | A355 Cl. A          |          |        |              | Annealed            |           |
| F.5103         | 1070                | 70       |        |              | Annealed            |           |
| F.5117         | 1095                |          |        |              | Annealed            |           |
| F.5118         | W1                  | U10A     |        |              | Annealed            |           |
|                |                     | U10      |        |              | Annealed            |           |
|                | W1                  | U13      |        |              | Annealed            |           |

| SMG        | EN                    | EN-Nr  | W.-Nr  | DIN                   | AFNOR                     | BS       | UNI                 | JIS                | SS     | UNS    |
|------------|-----------------------|--------|--------|-----------------------|---------------------------|----------|---------------------|--------------------|--------|--------|
| <b>P7</b>  | 107 CrV 3             | 1.2210 | 1.2210 | 115 CrV 3             | 100 C 3                   |          | 107 CrV 3 KU        |                    |        | T61202 |
|            | 90 MnCrV 8            | 1.2842 | 1.2842 | 100 MnCrV 4           | 90 MWCV 5                 | BO 1     | 95 MnVCr 5 KU       | SKS 3              | 2140   | T31501 |
|            | 100 Cr 6              | 1.3505 | 1.3505 | 90 MnCrV 8            | 90 MV 8                   | BO 2     | 90 MnVCr 8 KU       |                    |        | T31502 |
| <b>P8</b>  | X 210 Cr 12           | 1.2080 | 1.2080 | 100 Cr 6              | 100 C 6                   | 534 A 99 | 100 Cr 6            | SUJ 2              | 2258   | G51986 |
|            |                       |        | 1.2343 | X 38 CrMoV 5 1        | Z 38 CDV 5                | BD 3     | X 210 Cr 13 KU      | SKD 1              |        | T30403 |
|            | X 40 CrMoV 5 1        | 1.2344 | 1.2344 | X 40 CrMoV 5 1        | Z 40 CDV 5                | BH 11    | X 37 CrMoV 5 1 KU   | SKD 6              |        | T20811 |
|            | X 100 CrMoV 5         | 1.2363 | 1.2363 | X 100 CrMoV 5 1       | Z 100 CDV 5               | BH 13    | X 40 CrMo 5 1 1 KU  | SKD 61             | 2242   | T20813 |
|            |                       |        | 1.2365 | X 32 CrMoV 3 3        | 32 DCV 28                 | BA 2     | X 100 CrMoV 5 1 KU  | SKD 12             | 2260   | T30102 |
|            |                       |        | 1.2436 | X 210 CrW 12          |                           | BH 10    | 30 CrMoV 12 27 KU   | SKD 7              |        | T20810 |
|            |                       |        | 1.2601 | X 165 CrMoV 12        |                           |          | X 215 CrW 12 1 KU   | SKD 2              | 2312   |        |
|            |                       |        | 1.2713 | 55 NiCrMoV 6          | 55 NCDV 7                 |          | X 165 CrMoV 12 KU   |                    | 2310   |        |
|            | HS 6-5-2-5            | 1.3243 | 1.3243 | S 6-5-2-5             | Z 85 WDKCV 06-05-05-04-02 |          | HS 6-5-2-5          | SKT 4              |        | T61206 |
|            | HS 2-10-1-8           | 1.3247 | 1.3247 | S 2-10-1-8            | Z 110 DKCV 09-08-04       | BM 42    | HS 2-9-1-8          | SKH 55             | 2723   |        |
|            | HS 18-1-2-5           | 1.3255 | 1.3255 | S 18-1-2-5            | Z 80 WDKCV 18-05-04-01    | BT 4     | HS 18-1-1-5         | SKH 51             |        | T11342 |
|            | HS 6-5-2              | 1.3343 | 1.3343 | S 6-5-2               | Z 85 WDCV 06-05-04-02     | BM 2     | HS 6-5-2            | SKH 3              |        | T12004 |
|            | HS 2-9-2              | 1.3348 | 1.3348 | S 2-9-2               | Z 100 DCVV 09-04-02-02    |          | HS 2-9-2            | SKH 9, SKH 51      | 2722   | T11302 |
|            | HS 18-0-1             | 1.3355 | 1.3355 | S 18-0-1              | Z 80 WCV 18-04-01         | BT 1     | HS 18-0-1           | SKH 58             | 2782   | T11307 |
|            |                       |        |        |                       |                           |          |                     | SKH 2              |        | T12001 |
| <b>P11</b> | X 6 Cr 13             | 1.4000 | 1.4000 | X 6 Cr 13             | Z 6 C 12                  | 403 S 17 | X 6 Cr 13           | SUS 403            | 2301   | S41008 |
|            | X 12 Cr 13            | 1.4006 | 1.4006 | X 10 Cr 13            | Z 10 C 13                 | 410 S 21 | X 12 Cr 13          | SUS 410            | 2302   | S41000 |
|            | X 6 Cr 17             | 1.4016 | 1.4016 | X 6 Cr 17             | Z 8 C 17                  | 430 S 15 | X 8 Cr 17           | SUS 430            | 2320   | S43000 |
|            | X 20 Cr 13            | 1.4021 | 1.4021 | X 20 Cr 13            | Z 20 C 13                 | 420 S 37 | X 20 Cr 13          | SUS 420 J 1        | 2303   | S42000 |
|            | X 39 Cr 13            | 1.4031 | 1.4031 | X 40 Cr 13            | Z 40 C 14                 | 420 S 45 | X 40 Cr 14          | SUS 420            | 2304   | S40280 |
|            | X 70 CrMo 15          | 1.4109 | 1.4109 | X 65 CrMo 14          | Z 70 D 14                 |          |                     | SUS 440 A          |        | S44002 |
|            | X 90 CrMoV 18         | 1.4112 | 1.4112 | X 90 CrMoV 18         | Z 2 CND 18 05             | 409 S 19 | X CrTi 12           | SUS 440 B          | 2327   | S44003 |
|            | X 105 CrMo 17         | 1.4125 | 1.4125 | X 105 CrMo 17         | Z 100 CD 17               |          | X 105 CrMo 17       | SUS 440 C          |        | S44004 |
|            | X 3 CrNiMo 13 3       | 1.4313 | 1.4313 | X 5 CrNi 13 4         | Z 5 CN 13.4               | 425 C 11 | X 6 CrNi 13 04      | SCS 5              | 2385   | S41500 |
|            | X 18 CrN 28           | 1.4749 | 1.4749 | X 18 CrN 28           | Z 18 C 25                 |          |                     |                    | 2322   | S44600 |
| <b>P12</b> | X 6 NiCrTiMoV 25 15   | 1.4534 | 1.4534 | X 3 CrNiMoAl 13 8 2   |                           |          |                     |                    |        | S13800 |
|            | X 4 CrNiCuNb 16 4     | 1.4540 | 1.4540 | X 4 CrNiCuNb 16 4     |                           |          |                     |                    |        | S15500 |
|            |                       | 1.4540 | 1.4540 | X 4 CrNiCuNb 16 4     | Z 4 CNUNb 16.4 M          |          |                     |                    |        | S15500 |
|            | X 4 CrNiCuNb 16 4     | 1.4540 | 1.4540 | X 4 CrNiCuNb 16 4     |                           |          |                     |                    |        | S15500 |
|            | X 5 CrNiCuNb 16 4     | 1.4542 | 1.4542 | X 5 CrNiCuNb 16 4     |                           |          |                     | SUS 630            |        | S17400 |
|            | X 5 CrNiCuNb 17 4     | 1.4548 | 1.4542 | X 5 CrNiCuNb 17 4     | Z 6 CNU 17.4              |          |                     | SCS 24, SUS 630    |        | S17400 |
|            | X 7 CrNiAl 17 7       | 1.4564 | 1.4564 | X 7 CrNiAl 17 7       | Z 9 CAN 17.7              | 301 S 81 | X 7 CrNiAl 17 7     | SUS 631            | 2388   | S17700 |
|            | X 2 NiCoMoTi 18 12 4  | 1.6356 | 1.6356 | X 2 NiCoMoTi 18 12 4  |                           |          |                     |                    |        | K93160 |
|            | X 2 NiCoMoTi 18 9 5   | 1.6358 | 1.6358 | X 2 NiCoMoTi 18 9 5   | Z 2 NKD 19-09             |          |                     |                    |        | K93120 |
|            | X 2 NiCoMo 18 9 5     | 1.6358 | 1.6358 | X 2 NiCoMoTi 18 9 5   | Z 2 NKD 19-09             |          |                     |                    |        | K93120 |
|            | X 2 NiCoMo 18 8 5     | 1.6359 | 1.6359 | X 2 NiCoMo 18 8 5     |                           | S 162    |                     |                    |        | K92890 |
|            | X 2 NiCoMo 18 8 5     | 1.6359 | 1.6359 | X 2 NiCoMo 18 8 5     |                           | S 162    |                     |                    |        | K92890 |
| <b>M1</b>  | X 10 CrNiS 18 9       | 1.4305 | 1.4305 | X 10 CrNiS 18 9       | Z 10 CNF 18.09            | 303 S 31 | X 10 CrNi 18 09     | SUS 303            | 2346   | S30300 |
| <b>M2</b>  | X 2 CrNi 19 11        | 1.4306 | 1.4306 | X 2 CrNi 19 11        | Z 2 CN 18.10              | 304 S 12 | X 3 Cr Ni 18 11     | SUS 304 L          | 2352   | S30403 |
|            | X 5 CrNi 18 10        | 1.4301 | 1.4301 | X 5 CrNi 18 10        | Z 6 CN 18.09              | 304 S 31 | X 5 CrNi 18 11      | SUS 304            | 2333   | S30400 |
|            | X 5 CrNiMo 17 12 2    | 1.4401 | 1.4401 | X 5 CrNiMo 17 12 2    | Z 3 CND 17.11.1           | 316 S 31 | X 5 CrNiMo 17 12    | SUS 316            | 2347   | S31600 |
|            | X 6 CrNiNb 18 10      | 1.4550 | 1.4550 | X 6 CrNiNb 18 10      | Z 6 CNNb 18.10            | 347 S 31 | X 6 CrNiNb 18 11    | SUS 347            | 2338   | S34700 |
|            | X 9 CrNi 18 8         | 1.4310 | 1.4310 | X 12 CrNi 17 7        | Z 12 CN 17.07             | 301 S 21 | X 12 CrNi 17 07     | SUS 301            | (2331) | S30100 |
| <b>M3</b>  | X 12 CrNi 18 8        | 1.4300 | 1.4300 | X 12 CrNi 18 8        | Z 12 CN 18                | 302 S 25 |                     | SUS 302            | 2331   | S30200 |
|            | X 2 CrNiMo 18 14 3    | 1.4435 | 1.4435 | X 2 CrNiMo 18 14 3    | Z 2 CND 17.13             | 316 S 12 | X 2 CrNiMo 17 13 2  | SCS 16, SUS 316 L  | 2353   | S31603 |
|            | X 2 CrNiMoN 17 13 3   | 1.4429 | 1.4429 | X 2 CrNiMoN 17 13 3   | Z 2 CND 17.13 Az          | 316 S 62 | X 2 CrNiMoN 17 13 3 | SUS 316 LN         | 2375   | S31653 |
|            | X 2 CrNiN 18 10       | 1.4311 | 1.4311 | X 2 CrNiN 19 11       | Z 2 CN 18 .10 Az          | 304 S 62 | X 2 CrNiN 18 11     | SUS 304 LN         | 2371   | S30453 |
|            | X 3 CrNiMo 18 12 3    | 1.4466 | 1.4466 | X 5 CrNi 18 15        |                           | 317 S 16 | X 5 CrNi 18 15      | SUS 317            | 2366   | S31700 |
|            | X 9 CrNiSiNCe 21 11 2 | 1.4835 | 1.4893 | X 9 CrNiSiNCe 21 11 2 |                           | 310 S 31 |                     |                    | 2368   | S30815 |
| <b>M4</b>  | X 12 CrNi 25 21       | 1.4335 | 1.4335 | X 12 CrNi 25 21       | Z 12 CN 25.20             | 310 S 24 | X 6 CrNi 26 20      | SUH 310, SUS 310 S | 2361   | S31008 |
|            | X 2 CrNiMoN 22 5 3    | 1.4462 | 1.4462 | X 2 CrNiMoN 22 5      | Z 2 CND 22.05 Az          | 332 S 15 | X 2 CrNiMoN 22 5    |                    | 2377   | S31803 |
|            | X 2 CrNiMoSi 19 5     | 1.4424 | 1.4417 | X 2 CrNiMoSi 19 5     | Z 2 CND 18.05.03          |          |                     |                    | 2376   | S31500 |
|            | X 2 NiCrMoCu 25 20 5  | 1.4539 | 1.4539 | X 2 NiCrMoCu 25 20 5  | Z 2 NCDU 25 20            | 904 S 13 |                     |                    | 2562   | N08904 |
|            | X 3 CrNiMo 27 5 2     | 1.4460 | 1.4460 | X 4 CrNiMo 27 5 2     | Z 3 CND 25.7 Az           |          | X 3 CrNiMo 27 5 2   | SUS 329 J 1        | 2374   | S32900 |
| <b>M5</b>  | X 5 CrNiCuNb 16 4     | 1.4980 | 1.4943 | X 4 NiCrTi 25 15      | Z 6 NCTDV 25.15           | HR 51    |                     | SUH 660            | 2570   | S66286 |
|            | X 1 CrNiMoN 20 18 7   | 1.4547 | 1.4529 | X 1 CrNiMoN 20 18 7   | Z 1 CNDU 20.18.05 Az      |          | X 1 CrNiMoN 20 18 7 |                    | 2778   | S31254 |
|            | X 1 CrNiMoN 25 22 8   | 1.4652 | 1.4652 | X 2 CrNiMoN 25 22 7   |                           |          |                     |                    |        | S32654 |
|            | X 10 NiCrAlTi 32 20   | 1.4876 | 1.4876 | X 10 NiCrAlTi 32 20   | Z 10 NC 32.21             |          |                     | NCF 800            |        | N08800 |
|            | X 2 CrNiMoN 25 7 4    | 1.4410 | 1.4410 | X 2 CrNiMoN 25 7 4    | Z 3 CND 25.07 Az          |          | X 2 CrNiMoN 25 7 4  |                    | 2328   | S32750 |

| U.N.E./ I.H.A. | AISI / ASTM | GOST           | CSN    | Misc. Brands              | Condition         | Structure           |
|----------------|-------------|----------------|--------|---------------------------|-------------------|---------------------|
| F.520L         | L2          | 11KHF          |        |                           | Annealed          |                     |
| F.5220         | O1          | 9KHVG          |        |                           | Annealed          |                     |
|                | O2          | 9G2F           |        |                           | Annealed          |                     |
| F.5230         | 52100       | SHKH15         | 14 109 |                           | Annealed          |                     |
| F.5212         | D3          | KH12           |        |                           | Annealed          |                     |
|                | H11         | 4KH5MFS        |        |                           | Annealed          |                     |
| F.5318         | H13         | 4KH5MF1S       |        |                           | Annealed          |                     |
| F.5227         | A2          | 9KH5VF         |        |                           | Annealed          |                     |
|                | H10         | 3KH3M3F        |        |                           | Annealed          |                     |
| F.5213         |             | KH12           |        |                           | Annealed          |                     |
|                |             | KH12MF         |        |                           | Annealed          |                     |
| F.520.S        | L6          | 5KHNM          |        |                           | Annealed          |                     |
| F.5613         | M35         | R6M5K5         |        |                           | Annealed          |                     |
|                | M42         | R2AM9K5        |        |                           | Annealed          |                     |
|                | T4          | R18K5F2        |        |                           | Annealed          |                     |
| F.5603         | M2          | R6M5           |        |                           | Annealed          |                     |
|                | M7          |                |        |                           | Annealed          |                     |
|                | T1          | R18            |        |                           | Annealed          |                     |
|                | 403         | 08KH13         |        |                           | Annealed          | Ferritic            |
| F.3401         | 410, CA-15  | 12KH13, 08KH13 |        |                           | Annealed          | Martensitic         |
| F.3113         | 430         | 12KH17         |        |                           | Annealed          | Ferritic            |
| F.5261         | 420         | 20KH13         | 17 022 |                           | Annealed          | Martensitic         |
| F.3404         | 420         | 40KH13         |        |                           | Annealed          | Martensitic         |
|                | 440 A       |                |        |                           | Annealed          | Martensitic         |
|                | 440 B       | 95KH18         |        |                           | Annealed          | Martensitic         |
|                | 440 C       | 95KH18         |        |                           | Annealed          | Martensitic         |
|                | A182 F6NM   |                |        | F6NM                      | Annealed          | Martensitic         |
|                | 446         | 15KH28         |        |                           | Annealed          | Ferritic            |
|                | XM-13       |                |        | PH 13-8 Mo                | Solution annealed | Austenitic          |
|                | XM-12       |                |        | 15-5 PH                   | H1150             | Martensitic         |
|                | XM-12       |                |        | 15-5 PH                   | Solution annealed | Martensitic         |
|                | XM-12       |                |        | 15-5 PH                   | H1025             | Martensitic         |
|                | SAE 630     |                |        | 17-4 PH                   | H1150             | Martensitic         |
|                | 630         |                |        | 17-4 PH                   | Solution annealed | Martensitic         |
|                | 631         | 09KH17N7YU1    |        | 17-7 PH                   | Solution annealed | Austenitic/Ferritic |
|                | AMS 6515    |                |        | Marage 350                | Solution annealed | Martensitic         |
|                | AMS 6521    |                |        | Marage 300                | Solution annealed | Martensitic         |
|                | AMS 6514    |                |        | Marage 300, Vascomax C300 | Solution annealed | Martensitic         |
|                | AMS 6512    |                |        | Marage 250                | Solution annealed | Martensitic         |
|                | AMS 6512    |                |        | Marage 250, Vascomax C250 | Solution annealed | Martensitic         |
| F.3508         | 303         | 12KH19N9       |        |                           | Annealed          | Austenitic          |
| F.3504         | 304 L       | 03KH18N11      |        |                           | Annealed          | Austenitic          |
| F.3504         | 304         | 08KH18N10      | 17 240 |                           | Annealed          | Austenitic          |
| F.3534         | 316         | 08KH17H13M2T   | 17 346 |                           | Annealed          | Austenitic          |
| F.3524         | 347         | 08KH18N12B     |        |                           | Annealed          | Austenitic          |
| F.3517         | 301         | 07KH16N6       |        |                           | Annealed          | Austenitic          |
|                | 302         | 12KH18N9       |        |                           | Annealed          | Austenitic          |
| F.3533         | (316 L)     | 03KH17N14M3    | 17 349 |                           | Annealed          | Austenitic          |
|                | 316 LN      | 03KH16N15M3    |        |                           | Annealed          | Austenitic          |
| F.3541         | 304 LN      | 03KH18N11      |        |                           | Annealed          | Austenitic          |
|                | 317         | 08KH17H15M3T   |        |                           | Annealed          | Austenitic          |
|                |             |                |        | 253 MA                    | Annealed          | Austenitic          |
|                | 310 S       | 12KH25N20      |        |                           | Annealed          | Austenitic          |
|                | 329 LN      |                |        | SAF 2205                  | Annealed          | Duplex              |
|                |             |                |        | 3RE60                     | Annealed          | Duplex              |
|                | 904L        |                |        |                           | Annealed          | Super austenitic    |
|                | 329         |                |        |                           | Annealed          | Duplex              |
|                | 660         |                |        | A286                      | Solution annealed | Austenitic          |
|                |             |                |        | 254 SMO                   | Annealed          | Super austenitic    |
|                |             |                |        | 654 SMO                   | Annealed          | Super austenitic    |
|                |             |                |        | Alloy 800                 | Annealed          | Austenitic          |
|                | F 53        |                |        | SAF 2507                  | Annealed          | Super duplex        |

| SMG | EN                     | EN-Nr        | W.-Nr     | DIN               | AFNOR            | BS           | UNI       | JIS         | SS         | UNS         |
|-----|------------------------|--------------|-----------|-------------------|------------------|--------------|-----------|-------------|------------|-------------|
| K1  | EN-GJL-150             | 0.6150       | 0.6150    | GG-15             | Fl 15 D          | Grade 150    | G15       | FC 150      | 01 15-00   | F11601      |
|     | EN-GJL-200             | 0.6200       | 0.6200    | GG-20             | Fl 20 D          | Grade 220    | G20       | FC 200      | 01 20-00   | F12101      |
|     | EN-GJL-250             | 0.6250       | 0.6250    | GG-25             | Fl 25 D          | Grade 260    | G25       | FC 250      | 01 25-00   | F12401      |
|     | EN-GJL-350             | 0.6350       | 0.6350    | GG-35             | Fl 35 D          | Grade 350    | G35       | FC 350      | 01 35-00   | F13502      |
|     | EN-GJL-215             |              |           | GG-220 HB         |                  |              |           |             | 02 19      |             |
| K2  | EN-GJV-300             |              |           | GJV-300           |                  |              |           |             |            |             |
|     | EN-GJV-350             |              |           | GJV-350           |                  |              |           |             |            |             |
|     | EN-GJV-400             |              |           | GJV-400           |                  |              |           |             |            |             |
|     | EN-GJV-450             |              |           | GJV-450           |                  |              |           |             |            |             |
|     | EN-GJV-500             |              |           | GJV-500           |                  |              |           |             |            |             |
| K3  | EN-GJM-550-4           | 0.8155       |           | GTS-55-04         | P 540/5          | P 540/5      | P 55-04   | PCMP55-04   | 08 54-00   | F24130      |
| K4  | EN-GJS-350-22          | 0.7033       | 0.7033    | GGG-35.3          | FGS 370-17       | Grade 350/22 |           | FCD 350-22L | 07 17-15   |             |
|     | EN-GJS-400-15          | 0.7040       | 0.7040    | GGG-40            | FGS 400-12       | Grade 420/12 | GS 400-12 | FCD 400-18L | 07 17-02   | F32800      |
|     | EN-GJS-400-18          | 0.7043       | 0.7043    | GGG-40.3          | FGS 370-17       | Grade 370/17 | GSO 42/17 |             | 07 17-12   | F32800      |
|     | EN-GJS-500-7           | 0.7050       | 0.7050    | GGG-50            | FGS 500-7        | Grade 500/7  | GS 500-7  | FCD 500-7   | 07 27-02   | F33800      |
|     | EN-GJS-600-3           | 0.7060       | 0.7060    | GGG-60            | FGS 600-3        | Grade 600/3  | GS 600-3  | FCD 600-3   | 07 32-03   | F34100      |
|     | EN-GJS-700-2           | 0.7070       | 0.7070    | GGG-70            | FGS 700-2        | Grade 700/2  | GS 700-2  | FCD 700-2   | 07 37-01   | F34800      |
| K5  | EN-GJS-1000-5          |              |           | GJS-1000-5        |                  |              |           |             |            | ADI grade 5 |
|     | EN-GJS-1200-2          |              |           | GJS-1200-2        |                  |              |           |             |            | ADI grade 2 |
|     | EN-GJS-1400-1          |              |           | GJS-1400-1        |                  |              |           |             |            | ADI grade 3 |
|     | EN-GJS-800-8           |              |           | GJS-800-8         |                  |              |           |             |            | ADI grade 4 |
|     |                        |              |           |                   |                  |              |           |             |            | ADI grade 1 |
| K6  | EN-GJLA-XNiCr 20-2     | 0.6660       | 0.6660    | GGL-NiCr 20 2     | FGL Ni20 Cr2     | Grade F2     |           |             | 05 23-00   | F41002      |
|     | EN-GJLA-XNiCr 30-3     | 0.6676       | 0.6676    | GGL-NiCr 30 3     | FGL Ni30 Cr3     | Grade F3     |           |             |            | F41004      |
|     | EN-GJLA-XNiCuCr 15-6-2 | 0.6655       | 0.6655    | GGL-NiCuCr 15 6 2 | FGL Ni15 Cu6 Cr2 | Grade F1     |           |             |            | F41000      |
| K7  | EN-GJSA-XNiMn 13-7     | 0.7652       | 0.7652    | GGG-NiMn 13 7     | FGS Ni13 Mn7     | Grade S6     |           |             | 07 72-00   |             |
|     | EN-GJSA-XNiCr 20-2     | 0.7660       | 0.7660    | GGG-NiCr 20 2     | FGS Ni20 Cr2     | Grade S2     |           |             |            | F43000      |
|     | EN-GJSA-XNiMn 23-4     | 0.7673       | 0.7673    | GGG-NiMn 23 4     | FGS Ni23 Mn4     | Grade S2M    |           |             |            | F43010      |
|     | EN-GJSA-XNiCr 30-3     | 0.7676       | 0.7676    | GGG-NiCr 30 3     | FGS Ni30 Cr3     | Grade S3     |           |             |            | F43003      |
|     | EN-GJSA-XNi 35         | 0.7683       | 0.7683    | GGG-Ni 35         | FGS Ni35         |              |           |             |            | F43006      |
| N1  | AW-1050A               | Al99.5       | 3.0255    | Al99.5            | A-5/1050A        | 1B           |           | (A1050)     | 4007       | AA1050A     |
|     | AW-2011                | AlCuBiPb     | 3.1655    | AlCuBiPb          | A-U5PbBi/2011    | FC1          |           | A2011       | 4355       | AA2011      |
|     | AW-2014                | AlCuSiMn     | 3.1255    | AlCuSiMn          | A-U4SG/2014      | H15          |           |             | 4338       | AA2014      |
|     | AW-5005                | AlMg1        | 3.3315    | AlMg1             | A-G0.6           | N41          |           |             | 4106       | AA5005      |
|     | AW-6060                | AlMgSi0.5    | 3.3206    | AlMgSi0.5         | A-GS/6060        | (H9)         |           |             | 4103       | AA6060      |
|     | AW-6063                | AlMgSi0.7    | 3.3210    | AlMgSi0.7         | A-GSUC/6061      | (H10)        |           | (A6063)     | 4104, 4107 | AA6005      |
|     | AW-3103                | AlMn1        | 3.0515    | AlMn1             |                  | N3           |           |             | 4054       | AA3103      |
|     | AW-3003                | AlMn1Cu      | 3.0517    | AlMn1Cu           | A-M1/3003        |              |           | A3003       |            | AA3003      |
|     | AW-7020                | AlZn4.5Mg1   | 3.4335    | AlZn4.5Mg1        | A-Z5G/7020       | H17          |           |             | 4425       | AA7020      |
|     | AW-7075                |              | 3.4365    | AlZnMgCu1.5       | A-Z5GU/7075      | 2L95/2L96    |           | A7075       |            | AA7075      |
|     | AC-42000               |              | 3.2341    | G-AlSi5Mg         | A-S7G            | LM25         | 3599      | AC 4C       | 4244       |             |
|     | AC-46200               | AlSi8Cu3(Si) | 3.2161    | G-AlSi8Cu3        |                  | LM25         |           |             | 4251       | A13800      |
|     | MG-P-63                | MgAl6Zn      | 3.5612    | G-MgAl6Zn         | G-A6-Z1          | MAG-E-121    |           |             |            | M11600      |
|     | MG-P-61                | MgAl8Zn      | 3.5812    | G-MgAl8Zn         | (G-A7-Z1)        |              |           |             |            |             |
|     | MN65120                | MgSe3Zn2Zr1  | 3.5103    | G-MgSe3Zn2Zr1     | ZRE1             | MAG6-TE      |           |             |            | M12330      |
| N2  | AC-43400               | AlSi10Mg(Fe) | 3.2381    | G-AlSi10Mg        | A-S10G           | LM9          |           |             | 4253       | A13600      |
|     | AC-44200               | AlSi12       | 3.2382    | GD-AlSi12         |                  |              |           |             |            |             |
|     | AW-6082                | AlMgSi1      | 3.2315    | AlMgSi1           | A-SGM0.7/6082    | H30          |           |             | 4212       | AA6082      |
| N3  |                        | AlSi17Cu5    |           |                   |                  |              |           | ADC14       |            |             |
| N11 | CC331G                 |              | 2.0940.01 | CuAl10Fe          | CuAl10Fe         | AB1          |           |             | 5710       | C95200      |
|     | CC333G                 |              | 2.0975.01 | CuAl10Ni          | CuAl10Ni5Fe5     | AB2          |           |             | 5716       | C95500      |
|     |                        | CuNi10Fe1Mn  | 2.0872    | CuNi10Fe1Mn       | CuNi10Fe1Mn      | CN102        |           |             | 5667       | C70600      |
|     |                        |              |           | CuNi10Zn45        |                  |              |           |             |            |             |
|     |                        | CW408J       | 2.0790    | CuNi18Zn19Pb      | CuNi18Zn19Pb1    |              |           |             |            | C76300      |
|     | CW352H                 |              | 2.1176    | CuPb10Sn          | CuSn10Pb10       | LB2          |           |             | 5640       | C93700      |
|     | CC480K                 |              | 2.1050.01 | CuSn10            | CuSn10           | CT1          |           |             | 5443       | C90700      |
|     |                        |              | 2.1087    | CuSn10Zn          |                  |              |           |             | 5458       | C90500      |
|     | CW452K                 | CuSn6        | 2.1020    | CuSn6             | CuSn6            | PB103        |           | C5191       | 5428       | C51900      |
|     | CW502L                 | CuZn15       | 2.0240    | CuZn15            | CuZn15           | CZ102        |           | C2300       | 5112       | C23000      |
|     | CW706R                 | CuZn28Sn1    | 2.0470    | CuZn28Sn1         | CuZn29Sn1        |              |           |             | 5220       | C44300      |
|     | CW508L                 | CuZn37       | 2.0321    | CuZn37            | CuZn37           | CZ108        |           |             | 5150       | C27200      |
|     | CW717R                 | CuZn38Sn1    | 2.0530    | CuZn38Sn1         |                  |              |           |             |            | C46400      |
|     | CW614N                 | CuZn39Pb3    | 2.0401    | CuZn39Pb3         | CuZn39Pb3        | CZ121        |           |             | 5170       | C38500      |
|     | CW612N                 | CuZn40Pb2    | 2.0402    | CuZn40Pb2         | CuZn39Pb2        | CZ120        |           |             | 5168       | C37800      |
|     | CW622N                 | CuZn44Pb2    | 2.0410    | CuZn44Pb2         |                  | CZ104        |           |             | 5272       | C68700      |



| U.N.E./ I.H.A. | AISI / ASTM     | GOST           | CSN     | Misc. Brands   | Condition | Structure                      |
|----------------|-----------------|----------------|---------|----------------|-----------|--------------------------------|
|                | A48 25 B        | Sc 15          | 422 415 |                |           | Grey cast iron (GCI)           |
|                | A48 30 B        | Sc 20          | 422 420 |                |           | Grey cast iron (GCI)           |
|                | A48 35 B        | Sc 25          | 422 425 |                |           | Grey cast iron (GCI)           |
|                | A48 50 B        | Sc 35          |         |                |           | Grey cast iron (GCI)           |
|                | G 3500          |                |         |                |           | Grey cast iron (GCI)           |
|                | Grade 350       |                |         |                |           | Compacted graphite iron (CGI)  |
|                | Grade 400       |                |         |                |           | Compacted graphite iron (CGI)  |
|                | Grade 400-15    |                |         |                |           | Compacted graphite iron (CGI)  |
|                | Grade 450       |                |         |                |           | Compacted graphite iron (CGI)  |
|                | Grade 500       |                |         |                |           | Compacted graphite iron (CGI)  |
|                | A220 60004      |                |         |                | Tempered  | Malleable cast iron (MCI)      |
|                |                 |                |         |                |           | Nodular cast iron (SGI)        |
| FGE 38-17      | 60-40-18        | Vc 42-12       | 422 304 |                |           | Nodular cast iron (SGI)        |
|                | 60-40-18        | Vc 42-12       |         |                |           | Nodular cast iron (SGI)        |
| FGE 50-7       | A536, 80-55-06  | Vc 50-2        | 422 305 |                |           | Nodular cast iron (SGI)        |
| FGE 60-2       | A476, 80-60-03  | Vc 60-2        | 422 306 |                |           | Nodular cast iron (SGI)        |
| FGE 70-2       | A536, 100-70-03 | Vc 70-2        |         |                |           | Nodular cast iron (SGI)        |
|                | 1600/1300/-     |                |         |                |           | Austempered ductile iron (ADI) |
|                | 1050/700/7      |                |         |                |           | Austempered ductile iron (ADI) |
|                | 1200/850/4      |                |         |                |           | Austempered ductile iron (ADI) |
|                | 1400/1100/1     |                |         |                |           | Austempered ductile iron (ADI) |
|                | 850/550/10      |                |         |                |           | Austempered ductile iron (ADI) |
|                | A436 Type 2     |                |         | Ni-Resist 2    |           | Austenitic lamellar cast iron  |
|                | A436 Type 3     |                |         | Ni-Resist 3    |           | Austenitic lamellar cast iron  |
|                | A436 Type 1     |                |         | Ni-Resist 1    |           | Austenitic lamellar cast iron  |
|                |                 |                |         | Nodumag        |           | Austenitic nodular cast iron   |
|                | A436 Type D-2   |                |         | Ni-Resist D-2  |           | Austenitic nodular cast iron   |
|                | A439 Type D-2M  |                |         | Ni-Resist D-2M |           | Austenitic nodular cast iron   |
|                | A436 Type D-3   |                |         | Ni-Resist D-3  |           | Austenitic nodular cast iron   |
|                | A439 Type D-5   |                |         | Ni-Resist D-5  |           | Austenitic nodular cast iron   |
|                |                 |                |         |                |           |                                |
|                |                 |                |         |                |           |                                |
|                |                 |                |         |                |           |                                |
|                |                 |                |         |                |           |                                |
|                |                 |                |         |                |           |                                |
|                |                 |                |         |                |           |                                |
|                |                 |                |         |                |           |                                |
|                |                 |                |         |                |           |                                |
|                | B26             |                |         |                |           |                                |
|                | A380            |                |         |                |           |                                |
|                | AZ61A           |                |         |                |           |                                |
|                | AZ80A           |                |         |                |           |                                |
|                | AMS 4442        |                |         |                |           |                                |
|                | B85             |                |         |                |           |                                |
|                | A413.2          |                |         |                |           |                                |
|                |                 |                |         |                |           |                                |
|                | B390.0          |                |         |                |           |                                |
|                | CA952           | BrA9ZH3L       |         |                |           |                                |
|                | CA955           | BrA10ZH4N4L    |         |                |           |                                |
|                |                 |                |         |                |           |                                |
|                |                 |                |         |                |           |                                |
|                | CA937           |                |         |                |           |                                |
|                |                 |                |         |                |           |                                |
|                |                 |                |         |                |           |                                |
|                |                 | BrOF6.5-0.15   |         |                |           |                                |
|                |                 | L90            |         |                |           |                                |
|                |                 | LOMsh70-1-0.05 |         |                |           |                                |
|                |                 |                |         |                |           |                                |
|                |                 | LO60-1         |         |                |           |                                |
|                |                 |                |         |                |           |                                |
|                |                 | LAMsh77-2-0.05 |         |                |           |                                |

| SMG | EN                   | EN-Nr  | W.-Nr  | DIN                  | AFNOR                     | BS              | UNI                 | JIS         | SS         | UNS    |
|-----|----------------------|--------|--------|----------------------|---------------------------|-----------------|---------------------|-------------|------------|--------|
| S1  |                      |        |        |                      |                           |                 |                     |             |            |        |
| S2  |                      |        |        |                      |                           |                 |                     |             |            |        |
| S3  | NiMo30               |        | 2.4810 |                      |                           |                 |                     |             |            | N10002 |
|     | NiMo16Cr15W          |        | 2.4819 |                      |                           |                 |                     |             |            | N10276 |
|     | NiCr19Fe19Nb5Mo3     |        | 2.4668 |                      |                           |                 |                     |             |            | N07718 |
|     | NiCr20TiAl           |        | 2.4669 |                      |                           |                 |                     |             |            | N07750 |
|     | NiCr20TiAl           |        | 2.4631 |                      |                           |                 |                     |             |            | N07080 |
|     | NiCr19Co18Mo4Ti3Al3  |        |        |                      |                           |                 |                     |             |            | N07500 |
|     | NiCr20Co13Mo4Ti3Al   |        | 2.4654 |                      |                           |                 |                     |             |            | N07001 |
| S11 |                      |        | 3.7024 |                      |                           |                 |                     |             |            |        |
| S12 |                      |        |        |                      |                           |                 |                     |             |            | R54620 |
|     |                      |        |        |                      |                           |                 |                     |             |            | R56320 |
| S13 |                      |        |        |                      |                           |                 |                     |             |            | R56400 |
|     |                      |        |        | TiV10Fe2Al3          |                           |                 |                     |             |            |        |
| H3  | 16 MnCr 5            | 1.7131 | 1.7131 | 16 MnCr 5            | 16 MC 5                   | 527 M 17        | 16 MnCr 5           | SCR 415     | 2511       | G51170 |
| H5  | C 67S                | 1.1231 | 1.1231 | Ck 67                | XC 68                     | 060 A 67        | C 70                |             | 1770       | G10700 |
|     | C 75S                | 1.1248 | 1.1248 | Ck 75                | XC 75                     | 060 A 78        | C 75                |             | 1774, 1778 | G10780 |
|     | C 100S               | 1.1274 | 1.1274 | Ck 101               |                           | 060 A 96        |                     | SUP 4       | 1870       | G10950 |
|     | C 105U               | 1.1545 | 1.1545 | C 105 W1             | Y1 105                    |                 | C 100 KU            |             | 1880       |        |
|     |                      |        | 1.2550 | 60 WCrV 7            | 55 WC 20                  |                 | 55 WCrV 8 KU        |             |            |        |
|     | 55 Cr 3              | 1.7176 | 1.7176 | 55 Cr 3              | 55 C 3                    | 527 A 60        | 55 Cr 3             | SUP 9 (A)   | 2253       | G51550 |
|     | 42 CrMo 4            | 1.7225 | 1.7225 | 42 CrMo 4            | 42 CD 4                   | 708 M 40        | 42 CrMo 4           | SCM 440 (H) | 2244       | G41400 |
| H7  | 107 CrV 3            | 1.2210 | 1.2210 | 115 CrV 3            | 100 C 3                   |                 | 107 CrV 3 KU        |             |            | T61202 |
|     |                      |        | 1.2510 | 100 MnCrW 4          | 90 MWCV 5                 | BO 1            | 95 MnWCr 5 KU       | SKS 3       | 2140       | T31501 |
|     | 90 MnCrV 8           | 1.2842 | 1.2842 | 90 MnCrV 8           | 90 MV 8                   | BO 2            | 90 MnVCr 8 KU       |             |            | T31502 |
|     | 100 Cr 6             | 1.3505 | 1.3505 | 100 Cr 6             | 100 C 6                   | 534 A 99        | 100 Cr 6            | SUJ 2       | 2258       | G51986 |
| H8  | X 40 CrMoV 5 1       | 1.2344 | 1.2344 | X 40 CrMoV 5 1       | Z 40 CDV 5                | BH 13           | X 40 CrMo 5 1 1 KU  | SKD 61      | 2242       | T20813 |
|     | X 100 CrMoV 5        | 1.2363 | 1.2363 | X 100 CrMoV 5 1      | Z 100 CDV 5               | BA 2            | X 100 CrMoV 5 1 KU  | SKD 12      | 2260       | T30102 |
|     | X 155 CrVMo 12 1     |        | 1.2379 | X 155 CrVMo 12 1     | Z 160 CDV 12              | BD 2            | X 155 CrVMo 12 1 KU | SKD 11      |            | T30402 |
|     |                      |        | 1.2436 | X 210 CrW 12         |                           |                 | X 215 CrW 12 1 KU   | SKD 2       | 2312       |        |
|     |                      |        | 1.2601 | X 165 CrMoV 12       |                           |                 | X 165 CrMoW 12 KU   |             | 2310       |        |
|     |                      |        | 1.2713 | 55 NiCrMoV 6         | 55 NCDV 7                 |                 |                     | SKT 4       |            | T61206 |
|     | HS 6-5-2-5           | 1.3243 | 1.3243 | S 6-5-2-5            | Z 85 WDKCV 06-05-05-04-02 |                 | HS 6-5-2-5          | SKH 55      | 2723       |        |
|     | HS 2-10-1-8          | 1.3247 | 1.3247 | S 2-10-1-8           | Z 110 DKCWV 09-08-        | BM 42           | HS 2-9-1-8          | SKH 51      |            | T11342 |
|     | HS 18-0-1            | 1.3355 | 1.3355 | S 18-0-1             | Z 80 WCV 18-04-01         | BT 1            | HS 18-0-1           | SKH 2       |            | T12001 |
|     |                      |        |        |                      |                           |                 |                     |             |            |        |
| H11 | X 20 Cr 13           | 1.4021 | 1.4021 | X 20 Cr 13           | Z 20 C 13                 | 420 S 37        | X 20 Cr 13          | SUS 420 J 1 | 2303       | S42000 |
|     | X 70 CrMo 15         | 1.4109 | 1.4109 | X 65 CrMo 14         | Z 70 D 14                 |                 |                     | SUS 440 A   |            | S44002 |
|     | X 90 CrMoV 18        | 1.4112 | 1.4112 | X 90 CrMoV 18        | Z 2 CND 18 05             | 409 S 19        | X CrTi 12           | SUS 440 B   | 2327       | S44003 |
|     | X 105 CrMo 17        | 1.4125 | 1.4125 | X 105 CrMo 17        | Z 100 CD 17               |                 | X 105 CrMo 17       | SUS 440 C   |            | S44004 |
| H12 | X 4 CrNiCuNb 16 4    | 1.4540 | 1.4540 | X 4 CrNiCuNb 16 4    |                           |                 |                     |             |            | S15500 |
|     | X 5 CrNiCuNb 16 4    | 1.4542 | 1.4542 | X 5 CrNiCuNb 16 4    |                           |                 |                     | SUS 630     |            | S17400 |
|     | X 5 CrNiCuNb 16 4    | 1.4542 | 1.4542 | X 5 CrNiCuNb 16 4    |                           |                 |                     | SUS 630     |            | S17400 |
|     | X 7 CrNiAl 17 7      | 1.4568 | 1.4568 | X 7 CrNiAl 17 7      | Z 9 CAN 17.7              | 301 S 81        | X 7 CrNiAl 17 7     | SUS 631     | 2388       | S17700 |
|     | X 8 CrNiMoAl 15 7 5  | 1.4574 | 1.4574 | X 8 CrNiMoAl 15 7 5  |                           |                 |                     |             |            | S15700 |
|     | X 6 NiCrTiMoV 25 15  | 1.4980 | 1.4943 | X 4 NiCrTi 25 15     | Z 6 NCTDV 25.15           | HR 51           |                     | SUH 660     | 2570       | S66286 |
|     | X 2 NiCoMo 18 8 5    | 1.6359 | 1.6359 | X 2 NiCoMo 18 8 5    |                           | S 162           |                     |             |            | K92890 |
|     | X 2 NiCoMoTi 18 9 5  | 1.6358 | 1.6358 | X 2 NiCoMoTi 18 9 5  | Z 2 NKD 19-09             |                 |                     |             |            | K93120 |
|     | X 2 NiCoMoTi 18 9 5  | 1.6358 | 1.6358 | X 2 NiCoMoTi 18 9 5  | Z 2 NKD 19-09             |                 |                     |             |            | K93120 |
|     | X 2 NiCoMoTi 18 12 4 | 1.6356 | 1.6356 | X 2 NiCoMoTi 18 12 4 |                           |                 |                     |             |            | K93160 |
| H21 | X 120 Mn 12          | 1.3401 | 1.3401 | X 120 Mn 12          | Z 120 M 12                | BW 10           |                     | SC MnH 1    | 2183       |        |
| H31 | EN-GJN-HV520         | 0.9620 | 0.9620 | G-X330 NiCr 4 2      | FB Ni4 Cr2 BC             | Grade 2 A       |                     |             | 05 12-00   | F45001 |
|     | EN-GJN-HV550         | 0.9625 | 0.9625 | G-X260 NiCr 4 2      | FB Ni4 Cr2 HC             | Grade 2 B       |                     |             | 05 13-00   | F45000 |
|     | EN-GJN-HV600(XCr11)  | 0.9630 | 0.9630 | G-X300 CrNiSi 9 5 2  | FB Cr9 Ni5                | Grade 2 C, D, E |                     |             | 04 57-00   | F45003 |

| U.N.E./ I.H.A. | AISI / ASTM       | GOST        | CSN    | Misc. Brands        | Condition              | Structure                 |
|----------------|-------------------|-------------|--------|---------------------|------------------------|---------------------------|
|                |                   |             |        | Discolloy           | Precipitation hardened |                           |
|                |                   |             |        | Haynes 25           |                        |                           |
|                |                   |             |        | Stellite 21         |                        |                           |
|                |                   | KHN65MV     |        | Hastelloy C         |                        |                           |
|                |                   |             |        | Hastelloy C-276     |                        |                           |
|                |                   |             |        | IN 100              |                        |                           |
|                |                   |             |        | Inconel 718         |                        |                           |
|                |                   |             |        | Inconel X-750       | Solution annealed      |                           |
|                |                   |             |        | Nimonic 80A         |                        |                           |
|                |                   |             |        | René 41             |                        |                           |
|                |                   |             |        | Udimet 500          |                        |                           |
|                |                   |             |        | Waspalloy           |                        |                           |
|                | AMS 4919          |             |        | Ti                  | Commercially pure      | Ti ( $\alpha$ )           |
|                | AMS 4943          |             |        | Ti 6-2-4-2          | Annealed               | Ti ( $\alpha$ )           |
|                | AMS 4920, Grade 5 | VT6         |        | Ti 3Al-2.5V (grd 9) | Annealed               | Ti ( $\alpha$ + $\beta$ ) |
|                | AMS 4986          |             |        | Ti 6Al-4V           | Annealed               | Ti ( $\alpha$ + $\beta$ ) |
|                |                   |             |        | Ti 10V-2Fe-3Al      | Annealed               | Ti ( $\beta$ )            |
| F.1516         | 5115              | 12KHN2      | 14 220 |                     | Case hardened          |                           |
| F.5103         | 1070              | 70          |        |                     | Quenched & Tempered    |                           |
| F.5107         | 1078, 1080        | 75          |        |                     | Quenched & Tempered    |                           |
| F.5117         | 1095              |             |        |                     | Quenched & Tempered    |                           |
| F.5118         | W1                | U10A        |        |                     | Quenched & Tempered    |                           |
|                | S1                | 5KHV2SF     |        |                     | Quenched & Tempered    |                           |
|                | 5155              |             |        |                     | Quenched & Tempered    |                           |
| F.1252         | 4142, 4140        | 38HM        | 15 142 |                     | Quenched & Tempered    |                           |
| F.520L         | L2                | 11KHF       |        |                     | Quenched & Tempered    |                           |
| F.5220         | O1                | 9KHVG       |        |                     | Quenched & Tempered    |                           |
|                | O2                | 9G2F        |        |                     | Quenched & Tempered    |                           |
| F.5230         | 52100             | SHKH15      | 14 109 |                     | Quenched & Tempered    |                           |
| F.5318         | H13               | 4KH5MF1S    |        |                     | Quenched & Tempered    |                           |
| F.5227         | A2                | 9KH5VF      |        |                     | Quenched & Tempered    |                           |
| F.5211         | D2                | KH12MF      |        |                     | Quenched & Tempered    |                           |
| F.5213         |                   | KH12        |        |                     | Quenched & Tempered    |                           |
|                |                   | KH12MF      |        |                     | Quenched & Tempered    |                           |
| F.520.S        | L6                | 5KHNM       |        |                     | Quenched & Tempered    |                           |
| F.5613         | M35               | R6M5K5      |        |                     | Quenched & Tempered    |                           |
|                | M42               | R2AM9K5     |        |                     | Quenched & Tempered    |                           |
|                | T1                | R18         |        |                     | Quenched & Tempered    |                           |
| F.5261         | 420               | 20KH13      | 17 022 |                     | Quenched & Tempered    | Martensitic               |
|                | 440 A             |             |        |                     | Quenched & Tempered    | Martensitic               |
|                | 440 B             | 95KH18      |        |                     | Quenched & Tempered    | Martensitic               |
|                | 440 C             | 95KH18      |        |                     | Quenched & Tempered    | Martensitic               |
|                | XM-12             |             |        | 15-5 PH             | H900                   | Martensitic               |
|                | SAE 630           |             |        | 17-4 PH             | H1025                  | Martensitic               |
|                | SAE 630           |             |        | 17-4 PH             | H900                   | Martensitic               |
|                | AMS 5528          | 09KH17N7YU1 |        | 17-7 PH             | TH1050                 | Martensitic               |
|                | 632               |             |        | PH 15-7 Mo          | TH1050                 | Martensitic               |
|                | 660               |             |        | A286                | Precipitation hardened | Austenitic                |
|                | AMS 6512          |             |        | Marage 250          | Precipitation hardened | Martensitic               |
|                | AMS 6521          |             |        | Marage 300          | Precipitation hardened | Martensitic               |
|                | AMS 6521          |             |        | Marage 300          | Precipitation hardened | Martensitic               |
|                | AMS 6515          |             |        | Marage 350          | Precipitation hardened | Martensitic               |
|                | A128 Grade A      |             |        | Hadfield            |                        |                           |
|                | A532 IB (NiCr-LC) |             |        | Ni-Hard 2           |                        | White cast iron           |
|                | A532 IA (NiCr-HC) |             |        | Ni-Hard 1           |                        | White cast iron           |
|                | A532 ID (Ni-HiCr) |             |        | Ni-Hard 4           |                        | White cast iron           |

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