

SOLID CARBIDE CATALOG  
CATALOGUE CARBURE MONOBLOC  
**WINSFEED**

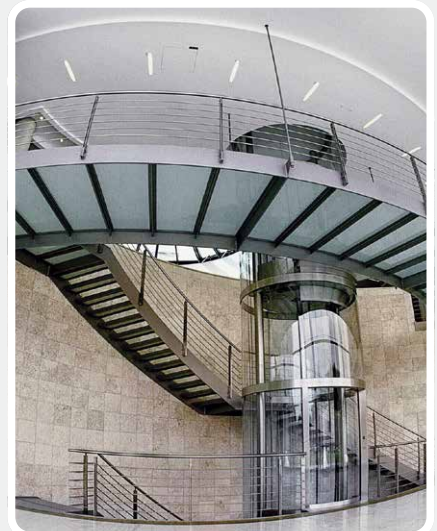




**Ingersoll Werkzeuge GmbH** is specialized in the production of cutting tools with an excellent vibration-free performance in both standard and special-purpose design.

In addition to very successful solutions for heavy-duty milling and the project-oriented development of special cutting tool solutions, we offer a whole range of technology potential which is applied by the most various industries.

The close cooperation with our customers for the development of technically demanding solutions for machining problems is the basis of long-term and durable partnerships – worldwide. Small as well as medium-sized companies but also international enterprises trust our professional qualification and profit from the reliability and process security of our cutting tools.







**Ingersoll Werkzeugzeuge GmbH** est une entreprise spécialisée dans la fabrication d'outils coupants. Les produits standards et spéciaux sont très performants, particulièrement en matière de rigidité.

En plus de nos solutions innovantes pour le fraisage lourd et notre orientation vers le développement d'outils coupants spéciaux, nous offrons une gamme complète pouvant répondre aux technologies appliquées dans la plupart des industries.

Travailler en étroite collaboration avec nos clients afin de développer des solutions techniques en matière de fraisage, tournage et perçage, est pour nous la base d'un partenariat durable, dans le monde entier. Notre professionnalisme ainsi que la fiabilité de nos outils et la sécurité de nos process sont reconnus à la fois par des petites et moyennes entreprises mais aussi par des groupes internationaux.





**Ingersoll is a worldwide operating manufacturer of milling, boring, threading and turning tools for demanding machining operations.**

Our main production plants in Haiger and Horrheim in Germany as well as Rockford in the United States, supply customers all over the world. Experienced and well-trained representatives in over 45 countries ensure a network of on-site advice and assistance. Ingersoll's complete range of performance and service is available to our customers – all over the world.



**Marketing Standort Haiger (Germany)**





Marketing office Rockford (USA)

**Ingersoll est un fabricant mondial d'outils coupants destinés aux opérations de fraisage et tournage.**

Nos principaux sites de fabrication, à Haiger et à Horrheim en Allemagne ainsi qu'à Rockford aux USA, fournissent nos clients dans le monde entier. Dans plus de 45 pays, nos représentants expérimentés et formés à notre technologie, constituent un réseau d'assistance et de conseils sur site. La gamme complète de produits performants et services Ingersoll est accessible à nos clients - partout dans le monde.

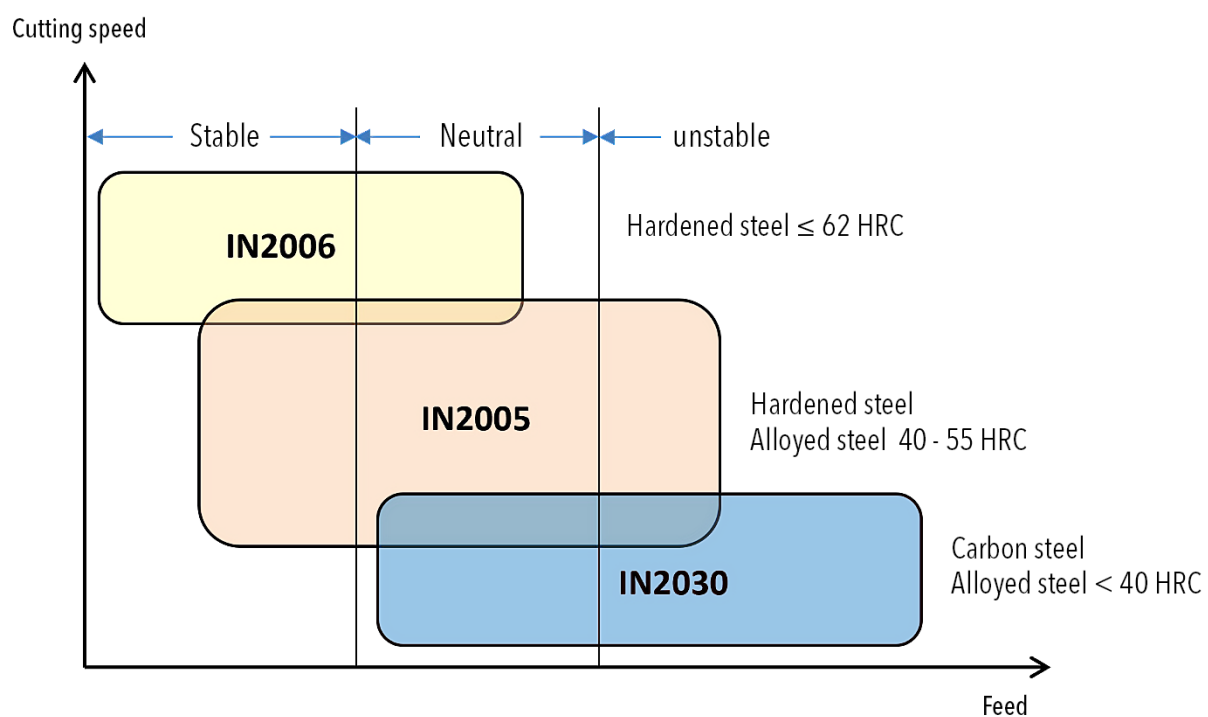


## GRADES CHIPSURFER AND SOLID CARBIDE

| Grades                                | ISO                                                                                                      | Properties & Application                                                                                                                                                                                                                                                        |
|---------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IN2006</b><br>PVD AlTiN            | <div>P10 – P20</div> <div>M15 – M35</div> <div>K10 – K20</div> <div>S10 – S20</div> <div>H10 – H20</div> | <ul style="list-style-type: none"> <li>Ultra-fine carbide grain, PVD coated with high wear resistance and toughness</li> <li>High speed, medium feed rate</li> <li>Used for machining up to 62 HRC hardened steel, titanium, nickel-based alloys and stainless steel</li> </ul> |
| <b>IN2005</b><br>PVD TiAlN            | <div>P15 – P30</div> <div>M20 – M30</div> <div>K20 – K30</div> <div>S10 – S25</div> <div>H20 – H30</div> | <ul style="list-style-type: none"> <li>Tough submicron substrate with PVD coating. High speed, medium feed rate</li> <li>For general machining of steel, stainless steel, and heat-resistant alloys across a wide cutting speed range</li> </ul>                                |
| <b>IN2205</b><br>PVD TiAlSiN          | <div>P20 – P40</div> <div>M20 – M40</div> <div>S20 – S40</div>                                           | <ul style="list-style-type: none"> <li>TiAlSiN coated submicron substrate with high wear resistance</li> <li>Suitable for low to medium cutting speeds</li> <li>For stainless steel and heat-resistant alloys</li> </ul>                                                        |
| <b>IN2505</b><br>PVD AlCrN            | <div>P20 – P40</div> <div>K20 – K40</div>                                                                | <ul style="list-style-type: none"> <li>Anti-abrasion and chipping resistant AlCrN</li> <li>Good balance between wear resistance and toughness achieved through the use of a fine-grain substrate</li> </ul>                                                                     |
| <b>IN2030</b><br>PVD AlTiN            | <div>P30 – P50</div> <div>M30 – M50</div> <div>K30 – K50</div> <div>S30 – S50</div>                      | <ul style="list-style-type: none"> <li>Very tough carbide for machining steel, stainless steel, and high heat-resistant alloys under interrupted cutting conditions</li> </ul>                                                                                                  |
| <b>IN05S</b><br>uncoated              | <div>N20 – N40</div>                                                                                     | <ul style="list-style-type: none"> <li>Uncoated submicron substrate for machining aluminum alloys and non-ferrous metals</li> </ul>                                                                                                                                             |
| <b>IN1205</b><br>PVD TiB <sub>2</sub> | <div>N15 – N35</div> <div>S15 – S35</div>                                                                | <ul style="list-style-type: none"> <li>PVD TiB<sub>2</sub> coating layer with high wear and heat resistance</li> <li>Developed for machining aluminum and titanium alloys</li> </ul>                                                                                            |
| <b>IN3005</b><br>CVD Diamant          | <div>N10 – N25</div>                                                                                     | <ul style="list-style-type: none"> <li>Diamond-coated submicron substrate with high resistance to abrasive</li> <li>Suitable for fiber-reinforced composites and ceramics</li> </ul>                                                                                            |
| <b>IN3305</b><br>PVD Ta-C             | <div>N15 – N35</div>                                                                                     | <ul style="list-style-type: none"> <li>Ta-C-coated submicron substrate for machining aluminum alloys and non-ferrous metals</li> <li>Thin coating thickness for sharp cutting edges</li> <li>High hardness of 5000 HV</li> </ul>                                                |
| <b>IN75N</b><br>uncoated              | <div>S20 – S40</div>                                                                                     | <ul style="list-style-type: none"> <li>SiAlON Ceramic</li> <li>High speed machining of nickel based alloys</li> </ul>                                                                                                                                                           |



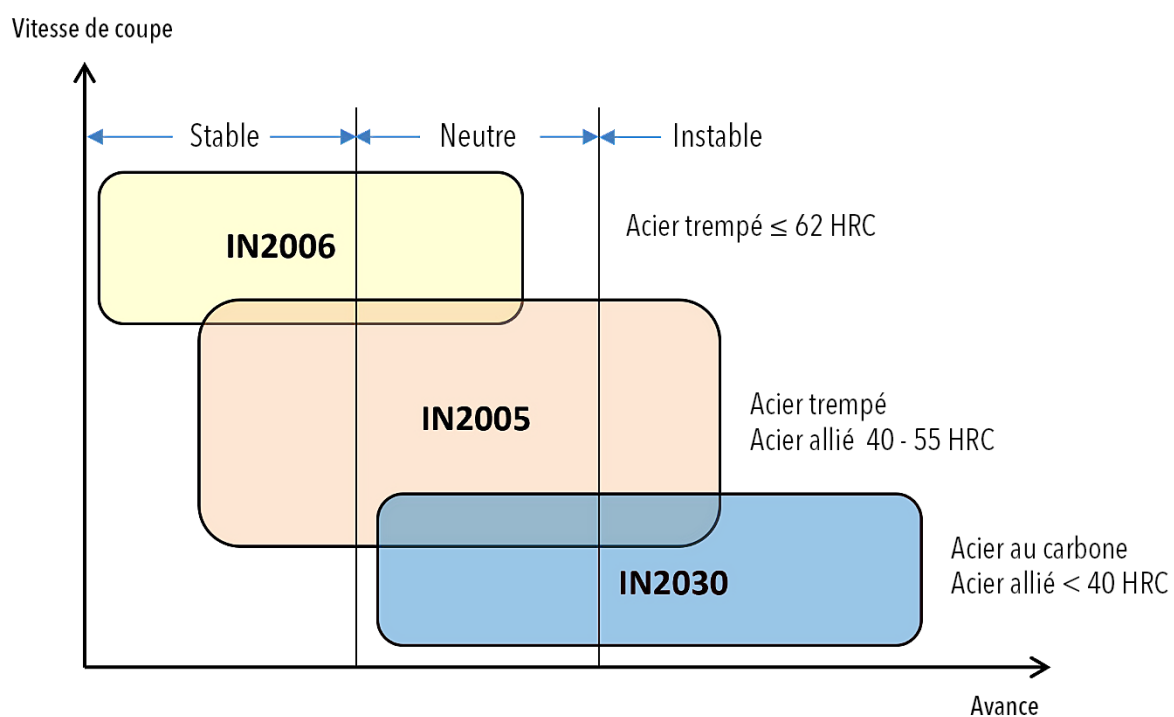
## GRADE SELECTION GUIDE





## NUANCES CHIPSURFER ET CARBURE MONOBLOC

| Nuances                               | ISO                                                                                                      | Application et Propriétés                                                                                                                                                                                                                                                                                                 |
|---------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IN2006</b><br>PVD AlTiN            | <div>P10 – P20</div> <div>M15 – M35</div> <div>K10 – K20</div> <div>S10 – S20</div> <div>H10 – H20</div> | <ul style="list-style-type: none"> <li>Grain carbure ultra-fin, revêtement PVD avec une résistance à l'usure et une ténacité élevées</li> <li>Vitesse élevée, avance moyenne</li> <li>Utilisé pour l'usinage des aciers trempés jusqu'à 62 HRC, du titane, des alliages à base de nickel et d'acier inoxydable</li> </ul> |
| <b>IN2005</b><br>PVD TiAlN            | <div>P15 – P30</div> <div>M20 – M30</div> <div>K20 – K30</div> <div>S10 – S25</div> <div>H20 – H30</div> | <ul style="list-style-type: none"> <li>Substrat submicron résistant, avec revêtement PVD. Vitesse élevée, avance moyenne</li> <li>Pour l'usinage général de l'acier, de l'acier inoxydable et des alliages résistants à la chaleur sur une large plage de vitesses de coupe</li> </ul>                                    |
| <b>IN2205</b><br>PVD TiAlSiN          | <div>P20 – P40</div> <div>M20 – M40</div> <div>S20 – S40</div>                                           | <ul style="list-style-type: none"> <li>Substrat submicron, revêtu de TiAlSiN à haute résistance à l'usure</li> <li>Convient aux vitesses de coupe faibles à moyennes</li> <li>Pour l'acier inoxydable et les alliages résistants à la chaleur</li> </ul>                                                                  |
| <b>IN2505</b><br>PVD AlCrN            | <div>P20 – P40</div> <div>K20 – K40</div>                                                                | <ul style="list-style-type: none"> <li>Revêtement AlCrN étant anti-abrasif et résistant à l'écailage</li> <li>Revêtement équilibré entre résistance à l'usure et ténacité, obtenu grâce à l'utilisation d'un substrat à grains fins</li> </ul>                                                                            |
| <b>IN2030</b><br>PVD AlTiN            | <div>P30 – P50</div> <div>M30 – M50</div> <div>K30 – K50</div> <div>S30 – S50</div>                      | <ul style="list-style-type: none"> <li>Carbure très résistant pour l'usinage de l'acier, de l'acier inoxydable et des alliages à haute résistance à la chaleur dans des conditions de coupe interrompue</li> </ul>                                                                                                        |
| <b>IN05S</b><br>Non revêtu            | <div>N20 – N40</div>                                                                                     | <ul style="list-style-type: none"> <li>Substrat submicron non revêtu pour l'usinage des alliages d'aluminium et des métaux non ferreux</li> </ul>                                                                                                                                                                         |
| <b>IN1205</b><br>PVD TiB <sub>2</sub> | <div>N15 – N35</div> <div>S15 – S35</div>                                                                | <ul style="list-style-type: none"> <li>Revêtement PVD, avec couche TiB<sub>2</sub>, à haute résistance à l'usure et à la chaleur</li> <li>Développé pour l'usinage des alliages d'aluminium et de titane</li> </ul>                                                                                                       |
| <b>IN3005</b><br>CVD Diamant          | <div>N10 – N25</div>                                                                                     | <ul style="list-style-type: none"> <li>Substrat submicron revêtu de diamant à haute résistance à l'abrasion</li> <li>Convient aux composites renforcés en fibres de carbone et en céramiques</li> </ul>                                                                                                                   |
| <b>IN3305</b><br>PVD Ta-C             | <div>N15 – N35</div>                                                                                     | <ul style="list-style-type: none"> <li>Substrat submicron revêtu Ta-C pour l'usinage des alliages d'aluminium et des métaux non ferreux</li> <li>Revêtement fin pour des arêtes de coupe tranchantes</li> <li>Dureté élevée de 5000 HV</li> </ul>                                                                         |
| <b>IN75N</b><br>Non revêtu            | <div>S20 – S40</div>                                                                                     | <ul style="list-style-type: none"> <li>Céramique SiAlON</li> <li>Usinage à grande vitesse les alliages à base de nickel</li> </ul>                                                                                                                                                                                        |





## SOLID CARBID MILLING CUTTERS / FRAISES CARBURE MONOBLOC

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## SOLID CARBID MILLING CUTTERS / FRAISES CARBURE MONOBLOC

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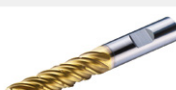
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|  | 2 - 20        | 7 - 38    | <b>SOLID CARBIDE</b><br>3 Flute Slot Drill - DIN 6535HA<br>Fraise en bout-Z3-DIN 6535HA                               | 69   |
|  | 6 - 20        | 16 - 38   | <b>SOLID CARBIDE</b><br>6 Flute End Mill - Medium Length (finishing)<br>Fraise en bout-finition-série moyenne-Z6      | 70   |
|  | 6 - 20        | 10 - 26   | <b>ECO LINE</b><br>High speed Cutter Z=4 short version<br>Fraise Carbure HPC - série courte Z=4 eco                   | 71   |

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## SOLID CARBID MILLING CUTTERS / FRAISES CARBURE MONOBLOC

|                                                                                     | D       | a        | Description                                                                                                      | Page |
|-------------------------------------------------------------------------------------|---------|----------|------------------------------------------------------------------------------------------------------------------|------|
|    | 6 - 20  | 13 - 41  | <b>ECO LINE</b><br>High speed Cutter Z=4 long version<br>Fraise Carbure HPC - série longue Z=4 eco               | 72   |
|    | 6 - 20  | 19 - 48  | <b>ECO LINE</b><br>High speed Cutter Z=4 very long version<br>Fraise Carbure HPC - Série extra longue Z=4 eco    | 73   |
|    | 6 - 20  | 13 - 41  | <b>ECO PRO</b><br>HPC Cutter Z=4 (EP)<br>Fraise HPC Z=4 (EP)                                                     | 74   |
|    | 4 - 20  | 10 - 38  | <b>PREMIUM LINE</b><br>HPC Ballnose Cutter Z=4 (PL)<br>Fraise hémisphérique hpc Z=4 (PL)                         | 75   |
|    | 3 - 20  | 7 - 41   | <b>PREMIUM LINE</b><br>HPC Cutter Z=4 (PL)<br>Fraise HPC Z=4 (Premium Line)                                      | 76   |
|   | 3 - 20  | 10 - 48  | <b>PREMIUM LINE</b><br>HPC Cutter Z=4 (PL) long version<br>Fraise HPC Z=4 (Premium Line) - version longue        | 77   |
|  | 3 - 20  | 7 - 41   | <b>PREMIUM LINE</b><br>HPC Cutter Z=4 (PL) S<br>Fraise HPC Z=4 (Premium Line) Inox                               | 78   |
|  | 3 - 20  | 10 - 48  | <b>PREMIUM LINE</b><br>HPC Cutter Z=4 (PL) S long version<br>Fraise HPC Z=4 (Premium Line) Inox - version longue | 79   |
|  | 6 - 20  | 24 - 65  | <b>SPUT LINE</b><br>HPC Cutter 3xD<br>Fraise trochoïdale HPC 3xD                                                 | 80   |
|  | 6 - 20  | 24 - 65  | <b>SPUT LINE</b><br>HPC Cutter 3xD<br>Fraise trochoïdale HPC 3xD - INOX                                          | 81   |
|  | 6 - 20  | 24 - 65  | <b>SPUT LINE</b><br>HPC Cutter 3xD Z=5 (SP)<br>Fraise trochoïdale HPC 3xD                                        | 82   |
|  | 10 - 20 | 55 - 105 | <b>SPUT LINE</b><br>HPC Cutter 5xD Z=5 (SP)<br>Fraise trochoïdale HPC 5xD                                        | 83   |
|  | 4 - 12  | 5 - 16   | <b>INRAPID</b><br>HSC ball nose end mill, Z=4<br>Fraise hémisphérique UGV, Z=4                                   | 84   |
|  | 4 - 12  | 4 - 8    | <b>INCOOLANT</b><br>High-speed end mill, Z=3<br>Fraise torique ugv avec arrosage intégré, Z=3 - Super Alliages   | 85   |

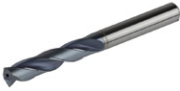
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# SOLID CARBID MILLING CUTTERS - DRILLS / FRAISES - FORET CARBURE MONOBLOC

|                                                                                     | D         | a        | Description                                                                                                                      | Page      |
|-------------------------------------------------------------------------------------|-----------|----------|----------------------------------------------------------------------------------------------------------------------------------|-----------|
|    | 6 - 20    | 13 - 32  | <b>INNOVATIVE</b><br>HPC end mill, Z=4<br>Fraise en bout à géométrie HPC, Z=4                                                    | 86        |
|    | 6 - 25    | 13 - 40  | <b>INNOVATIVE</b><br>HPC end mill, Z=5<br>Fraise en bout à géométrie HPC, Z=5                                                    | 87        |
|    | 5 - 25    | 13 - 50  | <b>INNO TITAN</b><br>HPC Titanium End Mill Z=4<br>Fraise HPC pour l'usinage du Titane Z=4                                        | 88 - 89   |
|    | 6 - 20    | 13 - 42  | <b>INNO TITAN</b><br>HPC Titanium End Mill Z=5<br>Fraise HPC pour l'usinage du Titane Z=5                                        | 90        |
|    | 6 - 25    | 9 - 55   | <b>PRIMO</b><br>3 Flute End Mill for Roughing ALU polished<br>Fraise alu ravageuse, Z=3 - Goujures polies                        | 92 - 94   |
|   | 6 - 25    | 24 - 153 | <b>PRIMO</b><br>3 Flute End Mill for Pre-/Finishing ALU polished<br>Fraise alu, 1/2 finition/finition, Z=3 - Goujures polies     | 95        |
|  | 6 - 25    | 14 - 38  | <b>PRIMO</b><br>3 Flute End Mill for Roughing & Finishing ALU polished<br>Fraise alu, ébauche et finition, Z=3 - Goujures polies | 96 - 98   |
|  | 8 - 20    | 18 - 42  | <b>PRIMO</b><br>HPC Cutter Z=4 with IC<br>Fraise HPC, Z=4 - Arrosage intégré                                                     | 99        |
|  | 6 - 20    | 13 - 32  | <b>PRIMO</b><br>HPC Cutter Z=5 with IC<br>Fraise HPC, Z=5 - Arrosage intégré                                                     | 100       |
|  | 8 - 20    | 17 - 81  | <b>PRIMO</b><br>HPC Cutter 2/3/4xD Z=5 with IC<br>Fraise HPC en 2/3/4xD, Z=5 - Arrosage intégré                                  | 102 - 103 |
|  | 8 - 20    | 33 - 81  | <b>PRIMO</b><br>HPC Cutter 4xD Z=5 with IC<br>Fraise HPC en 4xD, Z=5 - Arrosage intégré                                          | 104       |
|  | 8 - 20    | 17 - 61  | <b>PRIMO</b><br>HPC Cutter 2/3xD Z=6 with IC<br>Fraise HPC en 2/3xD, Z=6 - Arrosage intégré                                      | 105       |
|  | 6 - 16    | 6 - 12   | <b>INCCERAMIC</b><br>Solid Ceramic Speed End mill Z=3<br>Fraise céramique Monobloc Z=3                                           | 106       |
|  | 3,0 - 5,9 | 3D       | <b>SOLID DRILL</b><br>Solid Carbide Drill 3D Z=2 Ø3,0-5,9<br>Foret carbure monobloc 3D Z=2 Ø3,0-5,9                              | 107       |

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## SOLID CARBID DRILL / FORET CARBURE MONOBLOC

|                                                                                     | D          | a   | Description                                                                                             | Page |
|-------------------------------------------------------------------------------------|------------|-----|---------------------------------------------------------------------------------------------------------|------|
|    | 6,0 - 8,9  | 3D  | <b>SOLID DRILL</b><br>Solid Carbide Drill 3D Z=2 Ø6,0-8,9<br>Foret carbure monobloc 3D Z=2 Ø6,0-8,9     | 108  |
|    | 9,0 - 12,0 | 3D  | <b>SOLID DRILL</b><br>Solid Carbide Drill 3D Z=2 Ø9,0-12,0<br>Foret carbure monobloc 3D Z=2 Ø9,0-12,0   | 109  |
|    | 3,0 - 5,9  | 5D  | <b>SOLID DRILL</b><br>Solid Carbide Drill 5D Z=2 Ø3,0-5,9<br>Foret carbure monobloc 5D Z=2 Ø3,0-5,9     | 110  |
|    | 6,0 - 8,9  | 5D  | <b>SOLID DRILL</b><br>Solid Carbide Drill 5D Z=2 Ø6,0-8,9<br>Foret carbure monobloc 5D Z=2 Ø6,0-8,9     | 111  |
|    | 9,0 - 12,0 | 5D  | <b>SOLID DRILL</b><br>Solid Carbide Drill 5D Z=2 Ø9,0-12,0<br>Foret carbure monobloc 5D Z=2 Ø9,0-12,0   | 112  |
|   | 3,0 - 5,9  | 8D  | <b>SOLID DRILL</b><br>Solid Carbide Drill 8D Z=2 Ø3,0-5,9<br>Foret carbure monobloc 8D Z=2 Ø3,0-5,9     | 113  |
|  | 6,0 - 8,8  | 8D  | <b>SOLID DRILL</b><br>Solid Carbide Drill 8D Z=2 Ø6,0-8,8<br>Foret carbure monobloc 8D Z=2 Ø6,0-8,8     | 114  |
|  | 9,0 - 12,0 | 8D  | <b>SOLID DRILL</b><br>Solid Carbide Drill 8D Z=2 Ø9,0-12,0<br>Foret carbure monobloc 8D Z=2 Ø9,0-12,0   | 115  |
|  | 3,0 - 12,0 | 16D | <b>SOLID DRILL</b><br>Solid Carbide Drill 16D Z=2 Ø3,0-12,0<br>Foret carbure monobloc 16D Z=2 Ø3,0-12,0 | 116  |
|  | 3,0 - 12,0 | 20D | <b>SOLID DRILL</b><br>Solid Carbide Drill 20D Z=2 Ø3,0-12,0<br>Foret carbure monobloc 20D Z=2 Ø3,0-12,0 | 117  |
|  | 3,0 - 12,0 | 25D | <b>SOLID DRILL</b><br>Solid Carbide Drill 25D Z=2 Ø3,0-12,0<br>Foret carbure monobloc 25D Z=2 Ø3,0-12,0 | 118  |
|  | 3,0 - 10,0 | 30D | <b>SOLID DRILL</b><br>Solid Carbide Drill 30D Z=2 Ø3,0-10,0<br>Foret carbure monobloc 30D Z=2 Ø3,0-10,0 | 119  |
|  | 3,0 - 8,0  | 40D | <b>SOLID DRILL</b><br>Solid Carbide Drill 40D Z=2 Ø3,0-8,0<br>Foret carbure monobloc 40D Z=2 Ø3,0-8,0   | 120  |
|  | 4,0 - 6,0  | 50D | <b>SOLID DRILL</b><br>Solid Carbide Drill 50D Z=2 Ø4,0-6,0<br>Foret carbure monobloc 50D Z=2 Ø4,0-6,0   | 121  |

Subject to printing error or technical changes. / Sous réserve d'erreurs d'impression ou de modifications techniques.



## SOLID CARBID DRILL / FORET CARBURE MONOBLOC

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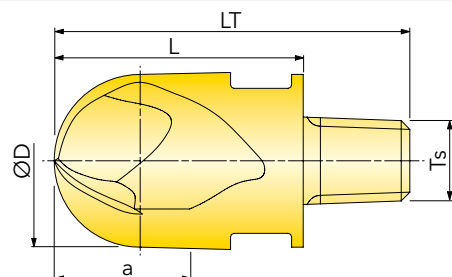
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NOTES

# CHIPSURFER HIGH PRECISION BALL NOSE FOR ALUMINUM

## FRAISE HEMISPHERIQUE HAUTE PRECISION POUR ALUMINIUM

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN05S

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>

+ Preferred choice / Premier choix ○ Second choice / Second choix

D

e8



Designation  
Réf. de l'article

D

LT

L

α

a

Ts

Z

kg

①



45B08005TQRB10

8

17,1

10

30

5

T5

2

0,005

WS-0043

45B10007T6RB13

10

19,65

13

30

7

T6

2

0,011

WS-0029

45B12009T8RB17

12

24,5

16,5

30

9

T8

2

0,020

WS-0030

45B16012TRRB21

16

32,3

20,5

30

12

T10

2

0,040

WS-0044

45B20015TSRB26

20

39,3

25,5

30

15

T12

2

0,072

WS-0059

45B25022TURB37

25

54,6

37

30

22

T15

2

0,200

WS-0061

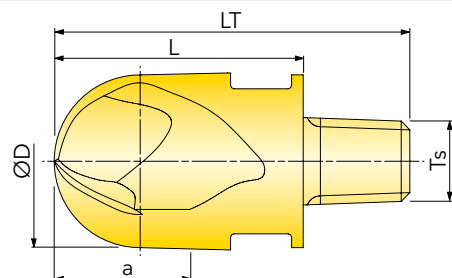
Diamond coating on request / revêtement diamant sur demande

① = Wrench / Clé de serrage

# CHIPSURFER HIGH PRECISION BALL NOSE Z=2

## FRAISE HEMISPHERIQUE HAUTE PRECISION Z=2

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>

+ Preferred choice / Premier choix ○ Second choice / Second choix

D

e8



Designation  
Réf. de l'article

D

LT

L

α

a

Ts

Z

kg

①



45B08005TQRB10

8

17,1

10

30

5

T5

2

0,006

WS-0043

45B10007T6RB13

10

19,65

13

30

7

T6

2

0,011

WS-0029

45B12009T8RB17

12

24,5

16,5

30

9

T8

2

0,020

WS-0030

45B16012TRRB21

16

32,3

20,5

30

12

T10

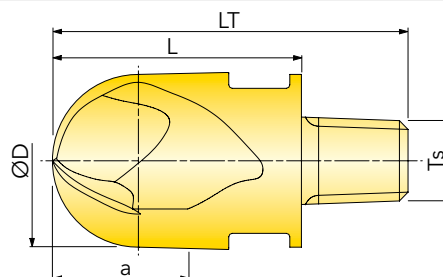
2

0,045

WS-0044

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(P/K)</sub>  
+ + + + ○

D e8

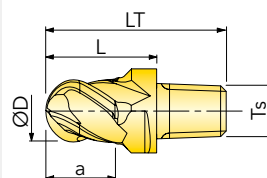


+ Preferred choice / Premier choix ○ Second choice / Second choix

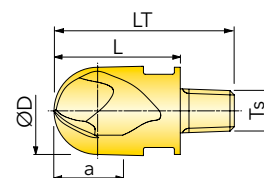
| Designation<br>Réf. de l'article | D  | LT    | L    | a  | Ts  | Z | kg    | ①       |
|----------------------------------|----|-------|------|----|-----|---|-------|---------|
| 46B08005TQRB10                   | 8  | 22,1  | 15   | 5  | T5  | 3 | 0,005 | WS-0043 |
| 46B10007T6RB13                   | 10 | 25,65 | 19   | 7  | T6  | 3 | 0,010 | WS-0029 |
| 46B12009T8RB17                   | 12 | 24,5  | 16,5 | 9  | T8  | 3 | 0,020 | WS-0030 |
| 46B16012TRRB21                   | 16 | 32,3  | 20,5 | 12 | T10 | 3 | 0,040 | WS-0044 |
| 46B20015TSRB26                   | 20 | 39,3  | 25,5 | 15 | T12 | 3 | 0,080 | WS-0059 |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Typ 1



Typ 2

Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(P/K)</sub>  
+ + + + ○

D e8



+ Preferred choice / Premier choix ○ Second choice / Second choix

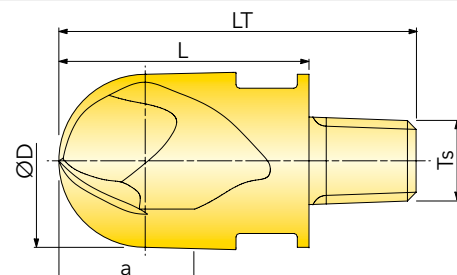
| Designation<br>Réf. de l'article | D  | LT    | L    | a   | Ts  | Typ | Z | kg    | ①       |
|----------------------------------|----|-------|------|-----|-----|-----|---|-------|---------|
| 47B05007TQRB15                   | 5  | 22,1  | 15   | 7   | T5  | 1   | 4 | 0,007 | WS-0043 |
| 47B06005TQRB10                   | 6  | 17,1  | 10   | 5,5 | T5  | 1   | 4 | 0,005 | WS-0043 |
| 47B08005TQRB10                   | 8  | 17,1  | 10   | 5   | T5  | 2   | 4 | 0,006 | WS-0043 |
| 47B10007T6RB13                   | 10 | 19,65 | 13   | 7   | T6  | 2   | 4 | 0,011 | WS-0029 |
| 47B12009T8RB17                   | 12 | 24,5  | 16,5 | 9   | T8  | 2   | 4 | 0,024 | WS-0030 |
| 47B16012TRRB21                   | 16 | 32,3  | 20,5 | 12  | T10 | 2   | 4 | 0,049 | WS-0044 |
| 47B20015TSRB26                   | 20 | 39,3  | 25,5 | 15  | T12 | 2   | 4 | 0,090 | WS-0059 |
| 47B25022TURB37                   | 25 | 54,6  | 37   | 22  | T15 | 2   | 4 | 0,206 | WS-0061 |

① = Wrench / Clé de serrage



# **CHIPSURFER** HIGH PRECISION BALL NOSE Z=4 FRAISE HEMISPHERIQUE HAUTE PRECISION Z=4

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2006

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+ Preferred choice / Premier choix    ○ Second choice / Second choix



Designation  
Réf. de l'article

D    LT    L    a    Ts    Z

kg

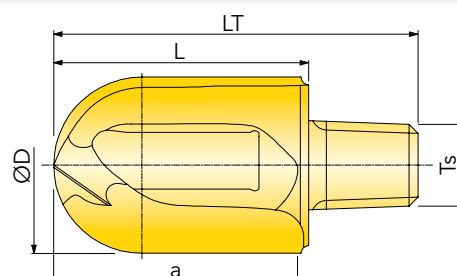


|                |    |       |      |    |     |   |       |         |
|----------------|----|-------|------|----|-----|---|-------|---------|
| 47B08005TQRQ10 | 8  | 17,1  | 10   | 5  | T5  | 4 | 0,006 | WS-0043 |
| 47B10007T6RQ13 | 10 | 19,65 | 13   | 7  | T6  | 4 | 0,011 | WS-0029 |
| 47B12009T8RQ17 | 12 | 24,5  | 16,5 | 9  | T8  | 4 | 0,024 | WS-0030 |
| 47B16012TRRQ21 | 16 | 32,3  | 20,5 | 12 | T10 | 4 | 0,049 | WS-0044 |
| 47B20016TSRQ26 | 20 | 39,3  | 25,5 | 16 | T12 | 4 | 0,087 | WS-0059 |

① = Wrench / Clé de serrage

# **CHIPSURFER** BALL NOSE CUTTERS FOR ROUGHING FRAISE EBAUCHE HEMISPHERIQUE HAUTE PRECISION

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+ Preferred choice / Premier choix    ○ Second choice / Second choix

D    h9



Designation  
Réf. de l'article

D    LT    L    a    Ts    Z

kg



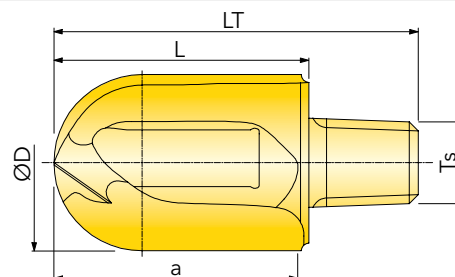
|                              |    |       |      |    |     |   |       |         |
|------------------------------|----|-------|------|----|-----|---|-------|---------|
| 45B08008TQRA10               | 8  | 17,1  | 10   | 8  | T5  | 2 | 0,005 | WS-0043 |
| 45B10010T6RW12 <sup>1)</sup> | 10 | 19,05 | 12,4 | 10 | T6  | 2 | 0,009 | WS-0029 |
| 45B10010T6RA12               | 10 | 19,05 | 12,4 | 10 | T6  | 2 | 0,009 | WS-0029 |
| 45B12011T8RA15               | 12 | 23,3  | 15,3 | 12 | T8  | 2 | 0,018 | WS-0030 |
| 45B16016TRRA19               | 16 | 30,9  | 19,1 | 16 | T10 | 2 | 0,038 | WS-0044 |

<sup>1)</sup>high precision tool (h7) / Outil haute précision (h7)

① = Wrench / Clé de serrage

# **CHIP SURFER** BALL NOSE CUTTER FOR HARD MILLING FRAISE HEMISPHERIQUE HAUTE PRECISION POUR MATERIAUX DURS

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2006

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(P/K)</sub>

+ Preferred choice / Premier choix    ○ Second choice / Second choix

D h7



Designation

Réf. de l'article

D

LT

L

a

Ts

Z

kg

①



45B08008TQRW10

8

17,1

10

8

T5

2

0,005

WS-0043

45B10010T6RW12

10

19,05

12,4

10

T6

2

0,009

WS-0029

45B12011T8RW15

12

23,3

15,3

12

T8

2

0,018

WS-0030

45B16016TRRW19

16

30,9

19,1

16

T10

2

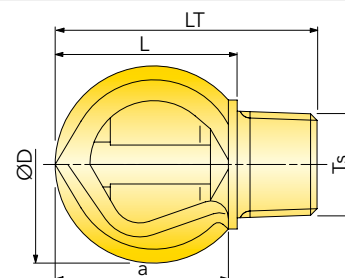
0,036

WS-0044

① = Wrench / Clé de serrage

# **CHIP SURFER** HIGH PRECISION BALL NOSE CUTTER SPHERICAL FRAISE HEMISPHERIQUE HAUTE PRECISION

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(P/K)</sub>

+ Preferred choice / Premier choix    ○ Second choice / Second choix

D h7



Designation

Réf. de l'article

D

LT

L

a

Ts

Z

kg

①



45X10007TQRA10

10

17,2

10,1

7,5

T5

2

0,006

WS-0043

45X12009T6RA12

12

18,3

11,65

9

T6

2

0,011

WS-0030

45X16012T8RA15

16

23,4

15,4

12,5

T8

2

0,022

WS-0044

45X20015TRRA19

20

30,3

18,5

15,5

T10

2

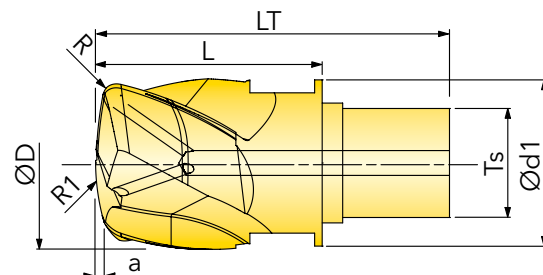
0,038

WS-0044

① = Wrench / Clé de serrage

# **CHIPSURFER** FINISH MILL LENS-SHAPE 46D\_ WITH I.C. FRAISE LENTILLE DE FINITION 46D\_ AVEC ARROSAGE INTER

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+ Preferred choice / Premier choix    ○ Second choice / Second choix



Designation  
Réf. de l'article

D

d1

LT

L

a

R

R1

Ts

Z



46D08005TQRB080

8

7,75

17,60

10,5

0,40

0,75

15

T5

3



0,006

WS-0043

46D10007T6RB100

10

9,4

20,20

13,5

0,45

1

20

T6

3



0,011

WS-0029

46D12009T8RB130

12

11,4

25,00

17

0,51

1,25

25

T8

3



0,022

WS-0030

46D16013TRRB180

16

15,4

32,80

21

0,62

1,75

35

T10

3



0,054

WS-0044

46D20016TSRB230

20

18,4

39,80

26

0,75

2,25

45

T12

3



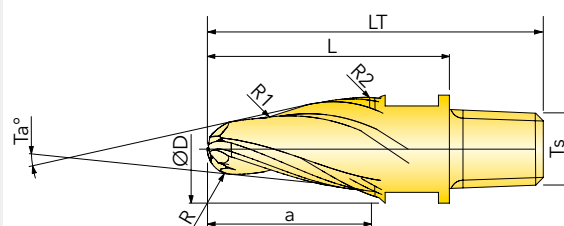
0,102

WS-0059

① = Wrench / Clé de serrage

# **CHIPSURFER** BEVEL CUTTER FOR ALUMINUM Z=3 FRAISE EN BOUT CONIQUE - GEOMETRIE ALU Z=3

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN05S

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+ Preferred choice / Premier choix    ○ Second choice / Second choix



Designation  
Réf. de l'article

D

LT

L

Ta

a

R

R1

R2

Ts

Z



46W08009TQRB011

8

22,00

15,00

40

8,80

1,5

250

4

T5

3

0,010

WS-0043

46W10013T6RB021

10

26,10

19,35

40

10,80

2

250

5

T6

3

0,020

WS-0029

46W12013T8RB031

12

31,20

23,25

40

11,80

3

250

6

T8

3

0,030

WS-0030

46W16017TRRB041

16

37,25

25,50

40

15,75

4

500

8

T10

3

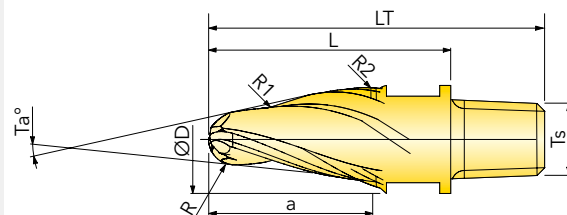
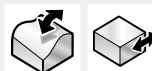
0,050

WS-0044

① = Wrench / Clé de serrage

# **CHIP SURFER** BEVEL CUTTER FOR STEEL Z=3 FRAISE EN BOUT CONIQUE - GÉOMÉTRIE ACIER/INOX Z=3

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
 + + + +

λ = 30°

454 HRC



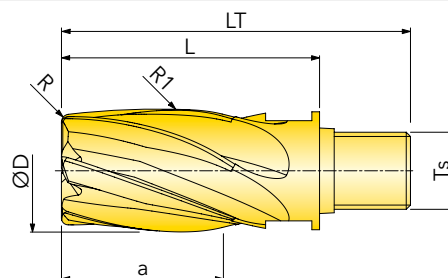
+ Preferred choice / Premier choix    O Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT    | L     | Ta | a    | R   | R1  | R2 | Ts  | Z | kg    | ①       |
|----------------------------------|----|-------|-------|----|------|-----|-----|----|-----|---|-------|---------|
| 46W08009TORB010                  | 8  | 22,00 | 15,00 | 40 | 8,8  | 1,5 | 250 | 4  | T5  | 3 | 0,010 | WS-0043 |
| 46W10013T6RB020                  | 10 | 26,00 | 19,45 | 40 | 10,8 | 2   | 250 | 5  | T6  | 3 | 0,020 | WS-0029 |
| 46W12013T8RB030                  | 12 | 31,20 | 23,25 | 40 | 11,8 | 3   | 250 | 6  | T8  | 3 | 0,030 | WS-0030 |
| 46W16017TRRB040                  | 16 | 37,25 | 25,50 | 40 | 15,7 | 4   | 500 | 8  | T10 | 3 | 0,050 | WS-0044 |

① = Wrench / Clé de serrage

# **CHIP SURFER** LONG FLUTE MILL Z=6 FRAISE TONNEAU Z=6

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
 + + + + O

D e8

λ = 30°

454 HRC



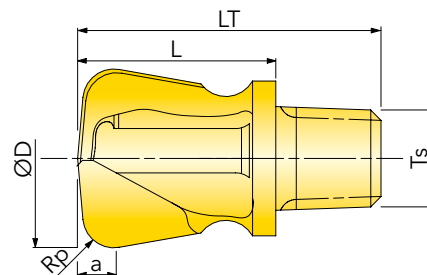
+ Preferred choice / Premier choix    O Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT   | L    | a    | R   | R1  | Ts  | Z | kg    | ①       |
|----------------------------------|----|------|------|------|-----|-----|-----|---|-------|---------|
| 48E12016T8RB271                  | 12 | 35,0 | 27,0 | 16,4 | 0,5 | 70  | T8  | 6 | 0,035 | WS-0030 |
| 48E16021TRRB342                  | 16 | 45,3 | 33,5 | 20,9 | 1   | 100 | T10 | 6 | 0,070 | WS-0044 |

① = Wrench / Clé de serrage



FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

| P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(P/K)</sub> |
|---|---|---|------------------|------------------|--------------------|
| + | + | + |                  | +                | +                  |

D h9

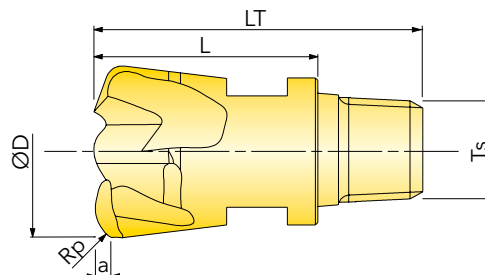
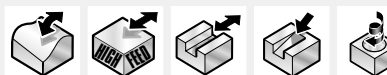


+ Preferred choice / Premier choix    ○ Second choice / Second choix

| Designation<br>Réf. de l'article                 | D  | LT    | L    | a   | Rp  | Ts  | Z | kg    | ①       |
|--------------------------------------------------|----|-------|------|-----|-----|-----|---|-------|---------|
| 45A10001T6RA20                                   | 10 | 19,15 | 12,5 | 0,6 | 2   | T6  | 2 | 0,009 | WS-0029 |
| 45A12001T8RA25                                   | 12 | 19,1  | 11,1 | 1   | 2,5 | T8  | 2 | 0,015 | WS-0030 |
| 45A16001TRRA301                                  | 16 | 25,3  | 13,5 | 1,1 | 3   | T10 | 2 | 0,030 | WS-0044 |
| 45A20001TSRA30                                   | 20 | 31,3  | 17,5 | 1,5 | 3   | T12 | 2 | 0,055 | WS-0059 |
| R (programming radius) / R (programmation rayon) |    |       |      |     |     |     |   |       |         |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2006

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+ + + + +

D e8

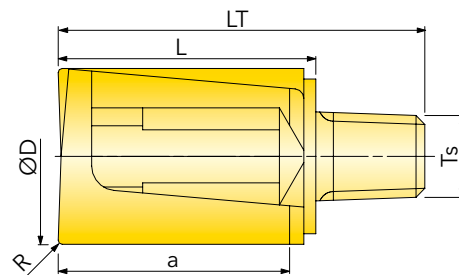
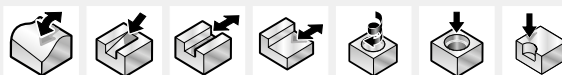


+ Preferred choice / Premier choix    O Second choice / Second choix

| Designation<br>Réf. de l'article                 | D  | LT    | L    | a    | Rp  | Ts  | Z | ① | kg    |
|--------------------------------------------------|----|-------|------|------|-----|-----|---|---|-------|
| 47A08001TQRA16                                   | 8  | 17,1  | 10   | 0,4  | 1,6 | T5  | 4 |   | 0,006 |
| 47A10001T6RA20                                   | 10 | 19,65 | 13   | 0,5  | 2   | T6  | 4 |   | 0,012 |
| 48A10001T6RA101                                  | 10 | 16,65 | 10   | 0,5  | 1   | T6  | 6 | ✓ | 0,012 |
| 47A12001T8RA24                                   | 12 | 24,5  | 16,5 | 0,6  | 2,4 | T8  | 4 |   | 0,023 |
| 48A12001T8RA121                                  | 12 | 20,5  | 12,5 | 0,65 | 1,2 | T8  | 6 | ✓ | 0,023 |
| 47A16001TRRA32                                   | 16 | 32,3  | 20,5 | 0,8  | 3,2 | T10 | 4 |   | 0,051 |
| 48A16001TRRA201                                  | 16 | 27,8  | 16   | 1,08 | 2   | T10 | 6 | ✓ | 0,051 |
| 47A20001TSRA40                                   | 20 | 39,3  | 25,5 | 1,0  | 4   | T12 | 4 |   | 0,095 |
| 48A20001TSRA221                                  | 20 | 33,8  | 20   | 1,28 | 2,2 | T12 | 6 | ✓ | 0,095 |
| 48A25001TURA36                                   | 25 | 54,6  | 37   | 1,2  | 3,6 | T15 | 6 |   | 0,155 |
| R (programming radius) / R (programmation rayon) |    |       |      |      |     |     |   |   |       |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(S)</sub> S<sub>(M)</sub> H<sub>(P/K)</sub>  
+ + + + O

D h9

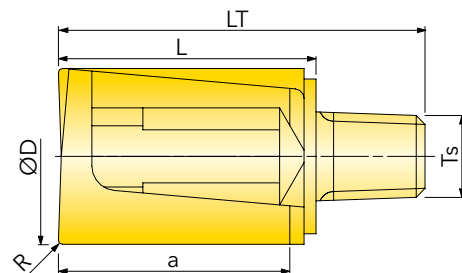
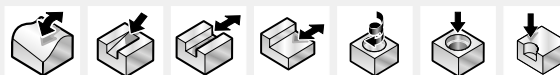


+ Preferred choice / Premier choix O Second choice / Second choix

| Designation<br>Réf. de l'article | D    | LT    | L    | a   | R   | Ts  | Z | kg    | ①       |
|----------------------------------|------|-------|------|-----|-----|-----|---|-------|---------|
| 45D07807TQRA02                   | 7,8  | 17,1  | 10   | 7,5 | 0,2 | T5  | 2 | 0,005 | WS-0043 |
| 45D08007TQRA10                   | 8    | 17,1  | 10   | 7,5 | 1   | T5  | 2 | 0,006 | WS-0043 |
| 45D08007TQRA20                   | 8    | 17,1  | 10   | 7,5 | 2   | T5  | 2 | 0,005 | WS-0043 |
| 45D08008TQRA04                   | 8    | 17,3  | 10,2 | 8   | 0,4 | T5  | 2 | 0,005 | WS-0043 |
| 45D09809T6RA03                   | 9,8  | 19,05 | 12,4 | 9   | 0,3 | T6  | 2 | 0,009 | WS-0029 |
| 45D10009T6RA04                   | 10   | 19,05 | 12,4 | 9   | 0,4 | T6  | 2 | 0,010 | WS-0029 |
| 45D10009T6RA10                   | 10   | 19,05 | 12,4 | 9   | 1   | T6  | 2 | 0,010 | WS-0029 |
| 45D10009T6RA20                   | 10   | 19,05 | 12,4 | 9   | 2   | T6  | 2 | 0,009 | WS-0029 |
| 45D11710T8RA03                   | 11,7 | 22,2  | 14,2 | 10  | 0,3 | T8  | 2 | 0,017 | WS-0030 |
| 45D12010T8RA04                   | 12   | 22,2  | 14,2 | 10  | 0,4 | T8  | 2 | 0,018 | WS-0030 |
| 45D12010T8RA10                   | 12   | 22,2  | 14,2 | 10  | 1   | T8  | 2 | 0,018 | WS-0030 |
| 45D12010T8RA20                   | 12   | 22,2  | 14,2 | 10  | 2   | T8  | 2 | 0,018 | WS-0030 |
| 45D14012T8RA04                   | 14   | 23    | 15   | 12  | 0,4 | T8  | 2 | 0,018 | WS-0030 |
| 45D15715TRRA03                   | 15,7 | 30,8  | 19   | 15  | 0,3 | T10 | 2 | 0,037 | WS-0044 |
| 45D16015TRRA04                   | 16   | 30,8  | 19   | 15  | 0,4 | T10 | 2 | 0,037 | WS-0044 |
| 45D16015TRRA08                   | 16   | 30,8  | 19   | 15  | 0,8 | T10 | 2 | 0,037 | WS-0044 |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2006

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+ + +

D h9



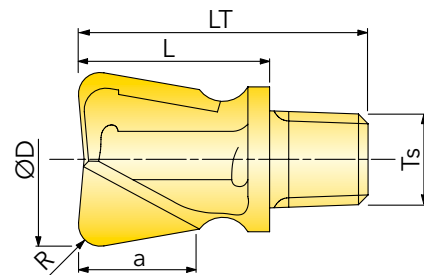
+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT    | L    | a   | R   | Ts  | Z | kg    | ①       |
|----------------------------------|----|-------|------|-----|-----|-----|---|-------|---------|
| 45D08008TQRA10                   | 8  | 17,1  | 10   | 7,5 | 1   | T5  | 2 | 0,005 | WS-0043 |
| 45D08008TQRA20                   | 8  | 17,1  | 10   | 7,5 | 2   | T5  | 2 | 0,005 | WS-0043 |
| 45D08008TQRA04                   | 8  | 17,3  | 10,2 | 8   | 0,4 | T5  | 2 | 0,005 | WS-0043 |
| 45D10009T6RA04                   | 10 | 19,05 | 12,4 | 9   | 0,4 | T6  | 2 | 0,009 | WS-0029 |
| 45D10009T6RA10                   | 10 | 19,05 | 12,4 | 9   | 1   | T6  | 2 | 0,009 | WS-0029 |
| 45D12010T8RA04                   | 12 | 22,2  | 14,2 | 10  | 0,4 | T8  | 2 | 0,017 | WS-0030 |
| 45D12010T8RA10                   | 12 | 22,2  | 14,2 | 10  | 1   | T8  | 2 | 0,017 | WS-0030 |
| 45D12010T8RA20                   | 12 | 22,2  | 14,2 | 10  | 2   | T8  | 2 | 0,017 | WS-0030 |
| 45D16015TRRA08                   | 16 | 30,8  | 19   | 15  | 0,8 | T10 | 2 | 0,036 | WS-0044 |

① = Wrench / Clé de serrage



FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(S)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+ + + + ○

D h9



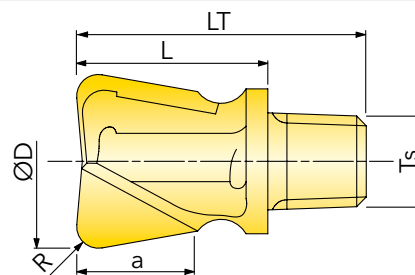
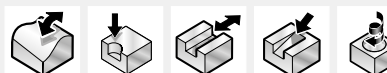
+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT    | L    | a   | R   | Ts  | Z | kg    | ①       |
|----------------------------------|----|-------|------|-----|-----|-----|---|-------|---------|
| 45U10008T6RA05                   | 10 | 19,05 | 12,4 | 7   | 0,5 | T6  | 2 | 0,009 | WS-0029 |
| 45U10008T6RA10                   | 10 | 19,05 | 12,4 | 7   | 1   | T6  | 2 | 0,009 | WS-0029 |
| 45U10006T6RA20                   | 10 | 19,25 | 12,6 | 6   | 2   | T6  | 2 | 0,009 | WS-0029 |
| 45U10006T6RA30                   | 10 | 19,25 | 12,6 | 6   | 3   | T6  | 2 | 0,010 | WS-0029 |
| 45U12006T6RA40                   | 12 | 15,75 | 9,1  | 5,7 | 4   | T6  | 2 | 0,005 | WS-0029 |
| 45U12006T8RA10                   | 12 | 19,1  | 11,1 | 6   | 1   | T8  | 2 | 0,014 | WS-0030 |
| 45U12006T8RA16                   | 12 | 19,1  | 11,1 | 6,3 | 1,6 | T8  | 2 | 0,014 | WS-0030 |
| 45U12006T8RA20                   | 12 | 19,1  | 11,1 | 6,2 | 2   | T8  | 2 | 0,014 | WS-0030 |
| 45U12006T8RA25                   | 12 | 19,1  | 11,1 | 6,1 | 2,5 | T8  | 2 | 0,014 | WS-0030 |
| 45U12006T8RA30                   | 12 | 19,1  | 11,1 | 6,1 | 3   | T8  | 2 | 0,015 | WS-0030 |
| 45U12006T8RA40                   | 12 | 19,1  | 11,1 | 5,9 | 4   | T8  | 2 | 0,015 | WS-0030 |
| 45U16007T8RA20                   | 16 | 24,9  | 13,1 | 7   | 2   | T10 | 2 | 0,029 | WS-0044 |
| 45U16007T8RA30                   | 16 | 25,2  | 13,4 | 7   | 3   | T10 | 2 | 0,030 | WS-0044 |
| 45U16007T8RA40                   | 16 | 25,2  | 13,4 | 7   | 4   | T10 | 2 | 0,030 | WS-0044 |
| 45U16008T8RA50                   | 16 | 32    | 20,2 | 8   | 5   | T10 | 2 | 0,038 | WS-0044 |

① = Wrench / Clé de serrage

# **CHIPSURFER** TORIC CUTTERS WITH CORNER RADIUS HARD MILLING FRAISE TORIQUE POUR MATERIAUX DURS

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2006

☒ P
 ☒ M
 ☒ K
 ☒ N<sub>(K)</sub>
☒ S<sub>(M)</sub>
☒ H<sub>(P/K)</sub>

D

h9



☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix

Designation

Réf. de l'article

D

LT

L

a

R

Ts

Z

kg

①



45U10008T6RA10

10

19,05

12,4

7

1

T6

2

0,009

WS-0029

45U10006T6RA20

10

19,25

12,6

6

2

T6

2

0,009

WS-0029

45U10006T6RA30

10

19,25

12,6

6

3

T6

2

0,009

WS-0029

45U12006T8RA20

12

19,1

11,1

6,2

2

T8

2

0,014

WS-0030

45U12006T8RA30

12

19,1

11,1

6,1

3

T8

2

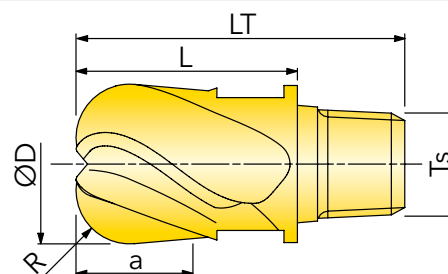
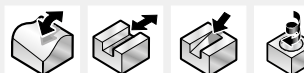
0,015

WS-0030

① = Wrench / Clé de serrage

# **CHIPSURFER** TORIC CUTTER WITH CORNER RADIUS FINISHING FRAISE TORIQUE POUR FINITION

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

☒ P
 ☒ M
 ☒ K
 ☒ N<sub>(K)</sub>
☒ S<sub>(M)</sub>
☐ H<sub>(P/K)</sub>

D

e8



☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix

Designation

Réf. de l'article

D

LT

L

a

R

Ts

Z

kg

①



48U08004TQRB20

8

17,1

10

4

2

T5

6

0,007

WS-0043

48U10005T6RB30

10

19,65

13

5

3

T6

6

0,013

WS-0029

48U12007T8RB40

12

24,5

16,5

7

4

T8

6

0,024

WS-0030

48U16009TRRB50

16

32,3

20,5

9

5

T10

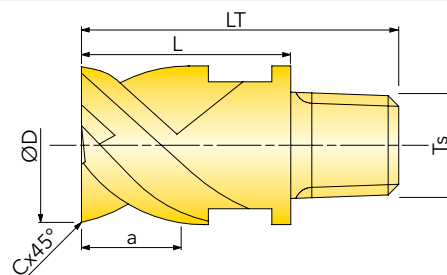
6

0,052

WS-0044

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+ Preferred choice / Premier choix
 ○ Second choice / Second choix

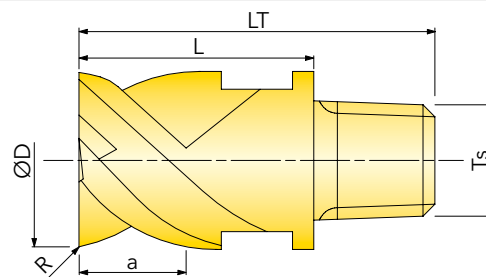
D e8



| Designation<br>Réf. de l'article | D  | LT    | L    | a  | C   | Ts  | Z | kg    | ①       |
|----------------------------------|----|-------|------|----|-----|-----|---|-------|---------|
| 47C08005TQRQ03                   | 8  | 17,1  | 10   | 5  | 0,3 | T5  | 4 | 0,006 | WS-0043 |
| 47C10007T6RQ04                   | 10 | 19,65 | 13   | 7  | 0,4 | T6  | 4 | 0,011 | WS-0029 |
| 47C12009T8RQ05                   | 12 | 24,5  | 16,5 | 9  | 0,5 | T8  | 4 | 0,022 | WS-0030 |
| 47C16012TRRQ06                   | 16 | 32,3  | 20,5 | 12 | 0,6 | T10 | 4 | 0,048 | WS-0044 |
| 47C20015TSRQ06                   | 20 | 39,3  | 25,5 | 15 | 0,6 | T12 | 4 | 0,089 | WS-0059 |
| 47C25022TURQ06                   | 25 | 54,6  | 37   | 22 | 0,6 | T15 | 4 | 0,207 | WS-0061 |
| unequally spaced / pas décalés   |    |       |      |    |     |     |   |       |         |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P

M

K

N<sub>(K)</sub>

S<sub>(M)</sub>

H<sub>(PK)</sub>

○

+

○

+

D

e8



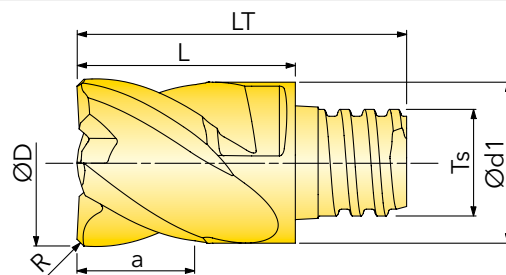
+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d1   | LT    | L    | a  | R   | Ts  | Z | kg    | ①       |
|----------------------------------|----|------|-------|------|----|-----|-----|---|-------|---------|
| 47D08005TQRP0200                 | 8  | 7,7  | 17,1  | 10   | 5  | 0,2 | T5  | 4 | 0,006 | WS-0043 |
| 47D08005TQRP0800                 | 8  | 7,7  | 17,1  | 10   | 5  | 0,8 | T5  | 4 | 0,006 | WS-0043 |
| 47D08005TQRP1000                 | 8  | 7,7  | 17,1  | 10   | 5  | 1   | T5  | 4 | 0,006 | WS-0043 |
| 47D08005TQRP2000                 | 8  | 7,7  | 17,1  | 10   | 5  | 2   | T5  | 4 | 0,006 | WS-0043 |
| 47D08005TQRP3000                 | 8  | 7,7  | 17,1  | 10   | 5  | 3   | T5  | 4 | 0,006 | WS-0043 |
| 47D10007T6RP0200                 | 10 | 9,6  | 19,65 | 13   | 7  | 0,2 | T6  | 4 | 0,010 | WS-0029 |
| 47D10007T6RP0800                 | 10 | 9,6  | 19,65 | 13   | 7  | 0,8 | T6  | 4 | 0,010 | WS-0029 |
| 47D10007T6RP1000                 | 10 | 9,6  | 19,65 | 13   | 7  | 1   | T6  | 4 | 0,010 | WS-0029 |
| 47D10007T6RP2000                 | 10 | 9,6  | 19,65 | 13   | 7  | 2   | T6  | 4 | 0,010 | WS-0029 |
| 47D10007T6RP3000                 | 10 | 9,6  | 19,65 | 13   | 7  | 3   | T6  | 4 | 0,010 | WS-0029 |
| 47D10007T6RP4000                 | 10 | 9,6  | 19,65 | 13   | 7  | 4   | T6  | 4 | 0,010 | WS-0029 |
| 47D12009T8RP0200                 | 12 | 11,7 | 24,5  | 16,5 | 9  | 0,2 | T8  | 4 | 0,020 | WS-0030 |
| 47D12009T8RP0800                 | 12 | 11,7 | 24,5  | 16,5 | 9  | 0,8 | T8  | 4 | 0,020 | WS-0030 |
| 47D12009T8RP1000                 | 12 | 11,7 | 24,5  | 16,5 | 9  | 1   | T8  | 4 | 0,020 | WS-0030 |
| 47D12009T8RP2000                 | 12 | 11,7 | 24,5  | 16,5 | 9  | 2   | T8  | 4 | 0,020 | WS-0030 |
| 47D12009T8RP3000                 | 12 | 11,7 | 24,5  | 16,5 | 9  | 3   | T8  | 4 | 0,020 | WS-0030 |
| 47D12009T8RP4000                 | 12 | 11,7 | 24,5  | 16,5 | 9  | 4   | T8  | 4 | 0,020 | WS-0030 |
| 47D16012TRRP0200                 | 16 | 15,3 | 32,3  | 20,5 | 12 | 0,2 | T10 | 4 | 0,020 | WS-0044 |
| 47D16012TRRP1000                 | 16 | 15,3 | 32,3  | 20,5 | 12 | 1   | T10 | 4 | 0,050 | WS-0044 |
| 47D16012TRRP2000                 | 16 | 15,3 | 32,3  | 20,5 | 12 | 2   | T10 | 4 | 0,050 | WS-0044 |
| 47D16012TRRP3000                 | 16 | 15,3 | 32,3  | 20,5 | 12 | 3   | T10 | 4 | 0,050 | WS-0044 |
| 47D16012TRRP4000                 | 16 | 15,3 | 32,3  | 20,5 | 12 | 4   | T10 | 4 | 0,050 | WS-0044 |
| 47D16012TRRP5000                 | 16 | 15,3 | 32,3  | 20,5 | 12 | 5   | T10 | 4 | 0,050 | WS-0044 |
| 47D20015TSRP0200                 | 20 | 18,3 | 39,3  | 25,5 | 15 | 0,2 | T12 | 4 | 0,090 | WS-0059 |
| 47D20015TSRP1000                 | 20 | 18,3 | 39,3  | 25,5 | 15 | 1   | T12 | 4 | 0,090 | WS-0059 |
| 47D20015TSRP2000                 | 20 | 18,3 | 39,3  | 25,5 | 15 | 2   | T12 | 4 | 0,090 | WS-0059 |
| 47D20015TSRP3000                 | 20 | 18,3 | 39,3  | 25,5 | 15 | 3   | T12 | 4 | 0,090 | WS-0059 |
| 47D20015TSRP4000                 | 20 | 18,3 | 39,3  | 25,5 | 15 | 4   | T12 | 4 | 0,090 | WS-0059 |
| 47D20015TSRP5000                 | 20 | 18,3 | 39,3  | 25,5 | 15 | 5   | T12 | 4 | 0,090 | WS-0059 |
| 47D25022TURP0200                 | 25 | 23,9 | 54,6  | 37   | 22 | 0,2 | T15 | 4 | 0,120 | WS-0061 |

Additional radius and tool length on request. / Autres rayons ou longueurs possibles sur demande

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTÈME DE TÊTES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(S)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
O + O +

D e8



+ Preferred choice / Premier choix O Second choice / Second choix

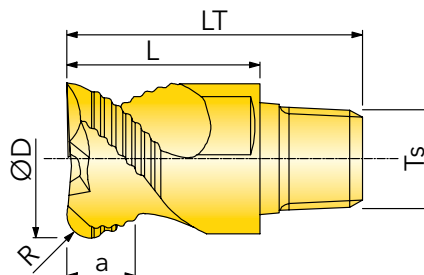
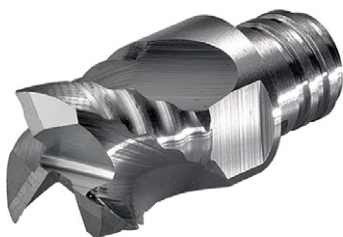
| Designation<br>Réf. de l'article | D  | d1   | LT    | L    | a  | R   | Ts  | Z | kg    | ①       |
|----------------------------------|----|------|-------|------|----|-----|-----|---|-------|---------|
| 47D08005TQRP0201                 | 8  | 7,7  | 17,1  | 10   | 5  | 0,2 | T5  | 5 | 0,006 | WS-0043 |
| 47D08005TQRP1001                 | 8  | 7,7  | 17,1  | 10   | 5  | 1   | T5  | 5 | 0,006 | WS-0043 |
| 47D10007T6RP0101                 | 10 | 9,6  | 19,65 | 13   | 7  | 0,1 | T6  | 5 | 0,010 | WS-0029 |
| 47D10007T6RP1001                 | 10 | 9,6  | 19,65 | 13   | 7  | 1   | T6  | 5 | 0,010 | WS-0029 |
| 47D10007T6RP2001                 | 10 | 9,6  | 19,65 | 13   | 7  | 2   | T6  | 5 | 0,010 | WS-0029 |
| 47D12009T8RP0201                 | 12 | 11,7 | 24,5  | 16,5 | 9  | 0,2 | T8  | 5 | 0,020 | WS-0030 |
| 47D12009T8RP1001                 | 12 | 11,7 | 24,5  | 16,5 | 9  | 1   | T8  | 5 | 0,020 | WS-0030 |
| 47D12009T8RP2001                 | 12 | 11,7 | 24,5  | 16,5 | 9  | 2   | T8  | 5 | 0,020 | WS-0030 |
| 47D12009T8RP4001                 | 12 | 11,7 | 24,5  | 16,5 | 9  | 4   | T8  | 5 | 0,020 | WS-0030 |
| 47D16012TRRP0201                 | 16 | 15,3 | 32,3  | 20,5 | 12 | 0,2 | T10 | 5 | 0,050 | WS-0044 |
| 47D16012TRRP1001                 | 16 | 15,3 | 32,3  | 20,5 | 12 | 1   | T10 | 5 | 0,050 | WS-0044 |
| 47D16012TRRP2001                 | 16 | 15,3 | 32,3  | 20,5 | 12 | 2   | T10 | 5 | 0,050 | WS-0044 |
| 47D16012TRRP4001                 | 16 | 15,3 | 32,3  | 20,5 | 12 | 4   | T10 | 5 | 0,050 | WS-0044 |
| 47D20015TSRP0201                 | 20 | 18,3 | 39,3  | 25,5 | 15 | 0,2 | T12 | 5 | 0,090 | WS-0059 |
| 47D20015TSRP1001                 | 20 | 18,3 | 39,3  | 25,5 | 15 | 1   | T12 | 5 | 0,090 | WS-0059 |
| 47D20015TSRP2001                 | 20 | 18,3 | 39,3  | 25,5 | 15 | 2   | T12 | 5 | 0,090 | WS-0059 |
| 47D20015TSRP4001                 | 20 | 18,3 | 39,3  | 25,5 | 15 | 4   | T12 | 5 | 0,090 | WS-0059 |
| 47D25022TURP0201                 | 25 | 23,9 | 54,6  | 37   | 22 | 0,2 | T15 | 5 | 0,120 | WS-0061 |
| 47D25022TURP1001                 | 25 | 23,9 | 54,6  | 37   | 22 | 1   | T15 | 5 | 0,120 | WS-0061 |
| 47D25022TURP2001                 | 25 | 23,9 | 54,6  | 37   | 22 | 2   | T15 | 5 | 0,120 | WS-0061 |
| 47D25022TURP4001                 | 25 | 23,9 | 54,6  | 37   | 22 | 4   | T15 | 5 | 0,120 | WS-0061 |

Additional radius and tool length on request. / Autres rayons et longueurs possibles sur demande

① = Wrench / Clé de serrage



FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN05S

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+ ○

D e8



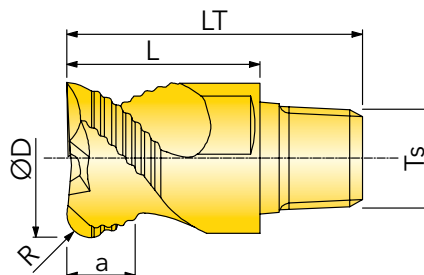
+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT    | L    | a    | R   | Ts  | Z | kg    | ①       |
|----------------------------------|----|-------|------|------|-----|-----|---|-------|---------|
| 46D08005TQRN02                   | 8  | 17,1  | 10   | 5,5  | 0,2 | T5  | 3 | 0,006 | WS-0043 |
| 46D10006T6RN02                   | 10 | 19,65 | 13   | 6,5  | 0,2 | T6  | 3 | 0,011 | WS-0029 |
| 46D12008T8RN02                   | 12 | 24,5  | 16,5 | 8,5  | 0,2 | T8  | 3 | 0,021 | WS-0030 |
| 46D16010TRRN02                   | 16 | 32,3  | 20,5 | 10,7 | 0,2 | T10 | 3 | 0,047 | WS-0044 |
| 46D20012TSRN02                   | 20 | 39,3  | 25,5 | 12,7 | 0,2 | T12 | 3 | 0,085 | WS-0059 |

Diamond coating on request / revêtement diamant sur demande

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN3305

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+ ○

D e8

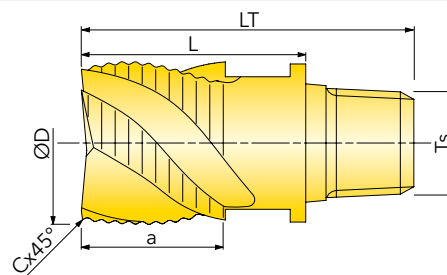


+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT    | L    | a    | R   | Ts  | Z | kg    | ①       |
|----------------------------------|----|-------|------|------|-----|-----|---|-------|---------|
| 46D08005TQRN02                   | 8  | 17,1  | 10   | 5,5  | 0,2 | T5  | 3 | 0,006 | WS-0043 |
| 46D10006T6RN02                   | 10 | 19,65 | 13   | 6,5  | 0,2 | T6  | 3 | 0,011 | WS-0029 |
| 46D12008T8RN02                   | 12 | 24,5  | 16,5 | 8,5  | 0,2 | T8  | 3 | 0,021 | WS-0030 |
| 46D16010TRRN02                   | 16 | 32,3  | 20,5 | 10,7 | 0,2 | T10 | 3 | 0,047 | WS-0044 |
| 46D20012TSRN02                   | 20 | 39,3  | 25,5 | 12,7 | 0,2 | T12 | 3 | 0,085 | WS-0059 |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>

+ + + +

D e8



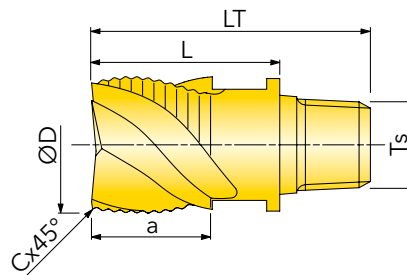
+ Preferred choice / Premier choix    ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT    | L    | a  | C    | Ts  | Z | kg    | ①       |
|----------------------------------|----|-------|------|----|------|-----|---|-------|---------|
| 47C08005TQRN03                   | 8  | 17,4  | 10,3 | 5  | 0,3  | T5  | 4 | 0,006 | WS-0043 |
| 47C08009TQRN03                   | 8  | 22,1  | 15   | 9  | 0,3  | T5  | 4 | 0,008 | WS-0043 |
| 47C10007T6RN03                   | 10 | 19,65 | 13   | 7  | 0,35 | T6  | 4 | 0,012 | WS-0029 |
| 47C12009T8RN03                   | 12 | 24,5  | 16,5 | 9  | 0,35 | T8  | 4 | 0,022 | WS-0030 |
| 47C12014T8RN03                   | 12 | 31    | 23   | 14 | 0,35 | T8  | 4 | 0,029 | WS-0030 |
| 47C16012TRRN04 <sup>1)</sup>     | 16 | 32,3  | 20,5 | 12 | 0,4  | T10 | 5 | 0,049 | WS-0044 |
| 48C20015TSRN04 <sup>1)</sup>     | 20 | 39,3  | 25,5 | 15 | 0,4  | T12 | 6 | 0,097 | WS-0059 |
| 48C25022TURN05                   | 25 | 54,6  | 37   | 22 | 0,5  | T15 | 6 | 0,159 | WS-0061 |

<sup>1)</sup>no center cut / Pas de coupe au centre

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+ + + +

D e8



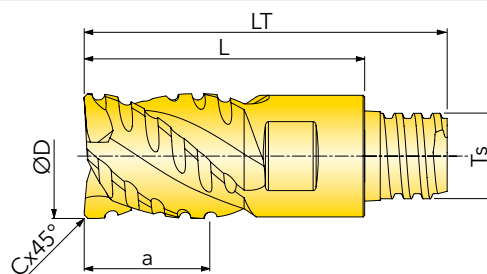
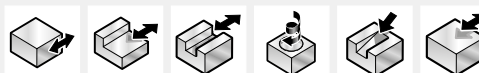
+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT    | L    | a  | C   | Ts  | Z | Zs | kg    | ①       |
|----------------------------------|----|-------|------|----|-----|-----|---|----|-------|---------|
| 47C08005TQRU03                   | 8  | 17,1  | 10   | 5  | 0,3 | T5  | 4 | 2  | 0,006 | WS-0043 |
| 47C10007T6RU03                   | 10 | 19,65 | 13   | 7  | 0,3 | T6  | 4 | 2  | 0,013 | WS-0029 |
| 47C12009T8RU04                   | 12 | 24,5  | 16,5 | 9  | 0,4 | T8  | 4 | 2  | 0,025 | WS-0030 |
| 47C16012TRRU06                   | 16 | 32,3  | 20,5 | 12 | 0,6 | T10 | 4 | 2  | 0,052 | WS-0044 |
| 47C20015TSRU06                   | 20 | 39,3  | 25,5 | 15 | 0,6 | T12 | 4 | 2  | 0,096 | WS-0059 |
| 47C25022TURU06                   | 25 | 54,6  | 37   | 22 | 0,6 | T15 | 4 | 2  | 0,217 | WS-0061 |

① = Wrench / Clé de serrage

**CHIP SURFER** ROUGHING CUTTER 1,5XD  
FRAISE D'EBAUCHE SÉRIE LONGUE 1,5 X D

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+ + + +

D e8



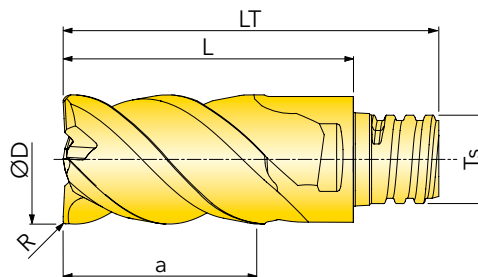
+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT    | L    | λ  | a  | C    | Ts  | Z |  |  |  ① |
|----------------------------------|----|-------|------|----|----|------|-----|---|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 47C08012TQRN02                   | 8  | 25,1  | 18   | 46 | 12 | 0,25 | T5  | 4 | 5                                                                                     | 0,01                                                                                  | WS-0043                                                                                 |
| 47C10015T6RN03                   | 10 | 28,65 | 22   | 46 | 15 | 0,30 | T6  | 4 | 5                                                                                     | 0,02                                                                                  | WS-0029                                                                                 |
| 47C12018T8RN03                   | 12 | 35    | 27   | 46 | 18 | 0,35 | T8  | 4 | 5                                                                                     | 0,03                                                                                  | WS-0030                                                                                 |
| 47C16024TRRN04                   | 16 | 45,3  | 33,5 | 40 | 24 | 0,40 | T10 | 5 | 5                                                                                     | 0,07                                                                                  | WS-0044                                                                                 |
| 48C20030TSRN04                   | 20 | 54,8  | 41   | 47 | 30 | 0,40 | T12 | 6 | 3                                                                                     | 0,14                                                                                  | WS-0059                                                                                 |
| 48C25037TURN05                   | 25 | 70,1  | 52,5 | 47 | 37 | 0,50 | T15 | 6 | 3                                                                                     | 0,28                                                                                  | WS-0061                                                                                 |

① = Wrench / Clé de serrage

# **CHIPSURFER** ROUGHING AND FINITION CUTTER 1,5XD FRAISE D'ÉBAUCHE ET FINITION SÉRIE LONGUE 1,5 X D

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+ Preferred choice / Premier choix    ○ Second choice / Second choix

D e8



Designation  
Réf. de l'article

D LT L a R Ts Z

kg

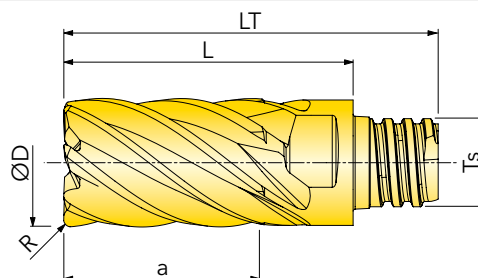


|                |    |       |      |    |     |     |   |   |      |         |
|----------------|----|-------|------|----|-----|-----|---|---|------|---------|
| 47D08012TQRD05 | 8  | 25,1  | 18   | 12 | 0,5 | T5  | 4 | 3 | 0,01 | WS-0043 |
| 47D10015T6RD05 | 10 | 28,65 | 22   | 15 | 0,5 | T6  | 4 | 3 | 0,02 | WS-0029 |
| 47D12018T8RD05 | 12 | 35    | 27   | 18 | 0,5 | T8  | 4 | 3 | 0,03 | WS-0030 |
| 47D16024TRRD05 | 16 | 45,3  | 33,5 | 24 | 0,5 | T10 | 4 | 1 | 0,07 | WS-0044 |
| 47D20030TSRD05 | 20 | 54,8  | 41   | 30 | 0,5 | T12 | 4 | 1 | 0,14 | WS-0059 |
| 47D25037TURD05 | 25 | 70,1  | 52,5 | 37 | 0,5 | T15 | 4 | 1 | 0,28 | WS-0061 |

① = Wrench / Clé de serrage

# **CHIPSURFER** FINISHING CUTTER 1,5XD FRAISE DE FINITION SÉRIE LONGUE 1,5 X D

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+ Preferred choice / Premier choix    ○ Second choice / Second choix

D e8



Designation  
Réf. de l'article

D LT L a R Ts Z

kg

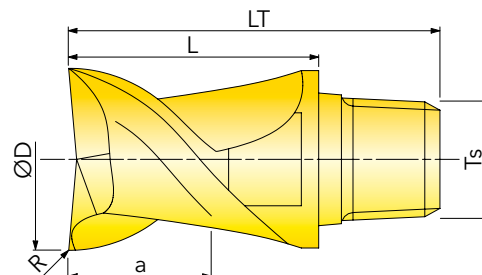
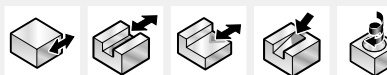


|                |    |       |      |    |     |     |   |      |         |
|----------------|----|-------|------|----|-----|-----|---|------|---------|
| 48D08012TQRC05 | 8  | 25,1  | 18   | 12 | 0,5 | T5  | 7 | 0,01 | WS-0043 |
| 48D10015T6RC05 | 10 | 28,65 | 22   | 15 | 0,5 | T6  | 7 | 0,02 | WS-0029 |
| 48D12018T8RC05 | 12 | 35    | 27   | 18 | 0,5 | T8  | 7 | 0,03 | WS-0030 |
| 48D16024TRRC08 | 16 | 41,5  | 33,5 | 24 | 0,8 | T10 | 9 | 0,07 | WS-0044 |
| 48D20030TSRC10 | 20 | 54,8  | 41   | 30 | 1   | T12 | 9 | 0,14 | WS-0059 |
| 48D25037TURC10 | 25 | 70,1  | 52,5 | 37 | 1   | T15 | 9 | 0,28 | WS-0061 |

① = Wrench / Clé de serrage

# **CHIPSURFER** END MILL WITH CORNER RADIUS FOR ALUMINUM Z=2 FRAISE EN BOUT RAYONNÉE POUR ALUMINUM Z=2

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN05S

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
 +

D e8



+ Preferred choice / Premier choix    ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT    | L    | a  | R   | Ts  | Typ | Z |   |       |         |
|----------------------------------|----|-------|------|----|-----|-----|-----|---|---|-------|---------|
| 45D08005TQRD05                   | 8  | 17,1  | 10   | 5  | 0,5 | T5  | 1   | 2 |   | 0,005 | WS-0043 |
| 45D08005TQRD0501                 | 8  | 17,1  | 10   | 5  | 0,5 | T5  | 2   | 2 | ✓ | 0,005 | WS-0043 |
| 45D10007T6RD05                   | 10 | 19,65 | 13   | 7  | 0,5 | T6  | 1   | 2 |   | 0,010 | WS-0029 |
| 45D10007T6RD0501                 | 10 | 19,65 | 13   | 7  | 0,5 | T6  | 2   | 2 | ✓ | 0,010 | WS-0029 |
| 45D10007T6RD10                   | 10 | 19,65 | 13   | 7  | 1   | T6  | 1   | 2 |   | 0,011 | WS-0029 |
| 45D10007T6RD1001                 | 10 | 19,65 | 13   | 7  | 1   | T6  | 2   | 2 | ✓ | 0,011 | WS-0029 |
| 45D12009T8RD05                   | 12 | 24,5  | 16,5 | 9  | 0,5 | T8  | 1   | 2 |   | 0,020 | WS-0030 |
| 45D12009T8RD0501                 | 12 | 24,5  | 16,5 | 9  | 0,5 | T8  | 2   | 2 | ✓ | 0,020 | WS-0030 |
| 45D12009T8RD10                   | 12 | 24,5  | 16,5 | 9  | 1   | T8  | 1   | 2 |   | 0,020 | WS-0030 |
| 45D12009T8RD1001                 | 12 | 24,5  | 16,5 | 9  | 1   | T8  | 2   | 2 | ✓ | 0,020 | WS-0030 |
| 45D16012TRRD0501                 | 16 | 32,3  | 20,5 | 12 | 0,5 | T10 | 2   | 2 | ✓ | 0,040 | WS-0044 |
| 45D16012TRRD1001                 | 16 | 32,3  | 20,5 | 12 | 1   | T10 | 2   | 2 | ✓ | 0,040 | WS-0044 |

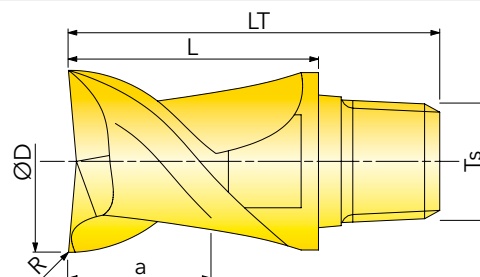
Diamond coating on request / revêtement diamant sur demande

① = Wrench / Clé de serrage



# **CHIPSURFER** END MILL WITH CORNER RADIUS FOR ALUMINUM Z=2 FRAISE EN BOUT RAYONNÉE POUR ALUMINUM Z=2

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN3305

P

M

K

N<sub>(K)</sub>

S<sub>(M)</sub>

H<sub>(P/K)</sub>

D

e8



+ Preferred choice / Premier choix    ○ Second choice / Second choix

Designation  
Réf. de l'article

D

LT

L

a

R

Ts

Z



①



45D08005TQRD05

8

17,1

10

5

0,5

T5

2

0,005

WS-0043

45D10007T6RD05

10

19,65

13

7

0,5

T6

2

0,010

WS-0029

45D10007T6RD10

10

19,65

13

7

1

T6

2

0,010

WS-0029

45D12009T8RD05

12

24,5

16,5

9

0,5

T8

2

0,020

WS-0029

45D12009T8RD10

12

24,5

16,5

9

1

T8

2

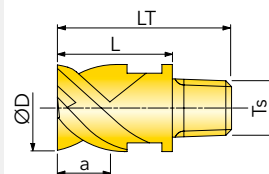
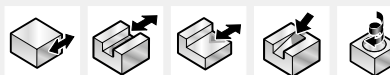
0,020

WS-0029

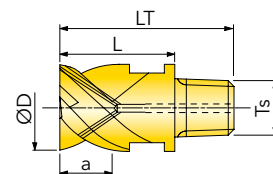
① = Wrench / Clé de serrage

# **CHIP SURFER** END MILL WITH CORNER RADIUS FOR ALUMINUM Z=3 FRAISE EN BOUT RAYONNÉE POUR ALUMINUM Z=3

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Typ 1



Typ 2

Grade / Nuance

IN05S

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+

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+ Preferred choice / Premier choix    ○ Second choice / Second choix

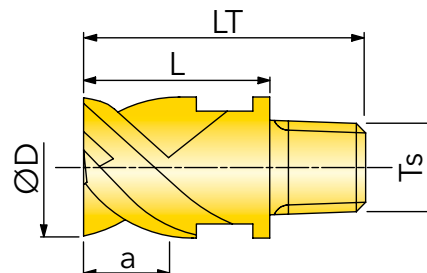
| Designation<br>Réf. de l'article | D  | LT    | L    | a  | R   | Ts  | Typ | Z |   |       |         |
|----------------------------------|----|-------|------|----|-----|-----|-----|---|---|-------|---------|
| 46D08005TQRD05                   | 8  | 17,1  | 10   | 5  | 0,5 | T5  | 1   | 3 |   | 0,006 | WS-0043 |
| 46D10007T6RD05                   | 10 | 19,65 | 13   | 7  | 0,5 | T6  | 1   | 3 |   | 0,011 | WS-0029 |
| 46D10007T6RD10                   | 10 | 19,65 | 13   | 7  | 1   | T6  | 1   | 3 |   | 0,011 | WS-0029 |
| 46D12008T8RD05                   | 12 | 24,5  | 16,5 | 8  | 0,5 | T8  | 1   | 3 |   | 0,022 | WS-0030 |
| 46D12008T8RD10                   | 12 | 24,5  | 16,5 | 8  | 1   | T8  | 1   | 3 |   | 0,022 | WS-0030 |
| 46D12008T8RD30                   | 12 | 24,5  | 16,5 | 8  | 3   | T8  | 1   | 3 |   | 0,022 | WS-0030 |
| 46J16010TRRD21                   | 16 | 32,3  | 20,5 | 10 | -   | T10 | 1   | 3 |   | 0,047 | WS-0044 |
| 46D16010TRRD10                   | 16 | 32,3  | 20,5 | 10 | 1   | T10 | 1   | 3 |   | 0,047 | WS-0044 |
| 46D16010TRRD20                   | 16 | 32,3  | 20,5 | 10 | 2   | T10 | 1   | 3 |   | 0,047 | WS-0044 |
| 46D16010TRRD30                   | 16 | 32,3  | 20,5 | 10 | 3   | T10 | 1   | 3 |   | 0,046 | WS-0044 |
| 46D16010TRRD40                   | 16 | 32,3  | 20,5 | 10 | 4   | T10 | 1   | 3 |   | 0,047 | WS-0044 |
| 46D20012TSRD05                   | 20 | 39,3  | 25,5 | 12 | 0,5 | T12 | 1   | 3 |   | 0,086 | WS-0059 |
| 46D20012TSRD10                   | 20 | 39,3  | 25,5 | 12 | 1   | T12 | 1   | 3 |   | 0,085 | WS-0059 |
| 46D20012TSRD20                   | 20 | 39,3  | 25,5 | 12 | 2   | T12 | 1   | 3 |   | 0,086 | WS-0059 |
| 46D20012TSRD30                   | 20 | 39,3  | 25,5 | 12 | 3   | T12 | 1   | 3 |   | 0,085 | WS-0059 |
| 46D20012TSRD40                   | 20 | 39,3  | 25,5 | 12 | 4   | T12 | 1   | 3 |   | 0,084 | WS-0059 |
| 46D08005TQRD0501                 | 8  | 17,1  | 10   | 5  | 0,5 | T5  | 2   | 3 | ✓ | 0,006 | WS-0043 |
| 46D10007T6RD0501                 | 10 | 19,65 | 13   | 7  | 0,5 | T6  | 2   | 3 | ✓ | 0,011 | WS-0029 |
| 46D10007T6RD1001                 | 10 | 19,65 | 13   | 7  | 1   | T6  | 2   | 3 | ✓ | 0,011 | WS-0029 |
| 46D12008T8RD0501                 | 12 | 24,5  | 16,5 | 8  | 0,5 | T8  | 2   | 3 | ✓ | 0,022 | WS-0030 |
| 46D12008T8RD1001                 | 12 | 24,5  | 16,5 | 8  | 1   | T8  | 2   | 3 | ✓ | 0,022 | WS-0030 |
| 46D12008T8RD3001                 | 12 | 24,5  | 16,5 | 8  | 3   | T8  | 2   | 3 | ✓ | 0,022 | WS-0030 |
| 46J16010TRRD2101                 | 16 | 32,3  | 20,5 | 10 | -   | T10 | 2   | 3 | ✓ | 0,047 | WS-0044 |
| 46D16010TRRD1001                 | 16 | 32,3  | 20,5 | 10 | 1   | T10 | 2   | 3 | ✓ | 0,047 | WS-0044 |
| 46D16010TRRD2001                 | 16 | 32,3  | 20,5 | 10 | 2   | T10 | 2   | 3 | ✓ | 0,047 | WS-0044 |
| 46D16010TRRD3001                 | 16 | 32,3  | 20,5 | 10 | 3   | T10 | 2   | 3 | ✓ | 0,047 | WS-0044 |
| 46D16010TRRD4001                 | 16 | 32,3  | 20,5 | 10 | 4   | T10 | 2   | 3 | ✓ | 0,047 | WS-0044 |
| 46D20012TSRD0501                 | 20 | 39,3  | 25,5 | 12 | 0,5 | T12 | 2   | 3 | ✓ | 0,086 | WS-0059 |
| 46D20012TSRD1001                 | 20 | 39,3  | 25,5 | 12 | 1   | T12 | 2   | 3 | ✓ | 0,086 | WS-0059 |
| 46D20012TSRD2001                 | 20 | 39,3  | 25,5 | 12 | 2   | T12 | 2   | 3 | ✓ | 0,086 | WS-0059 |
| 46D20012TSRD3001                 | 20 | 39,3  | 25,5 | 12 | 3   | T12 | 2   | 3 | ✓ | 0,086 | WS-0059 |
| 46D20012TSRD4001                 | 20 | 39,3  | 25,5 | 12 | 4   | T12 | 2   | 3 | ✓ | 0,086 | WS-0059 |

Diamond coating on request / revêtement diamant sur demande

① = Wrench / Clé de serrage

# **CHIPSURFER** END MILL WITH CORNER RADIUS FOR ALUMINUM Z=3 FRAISE EN BOUT RAYONNEE POUR ALUMINUM Z=3

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN3305

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H<sub>(PK)</sub>

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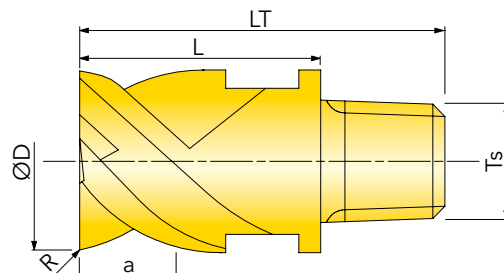
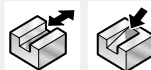


+ Preferred choice / Premier choix    O Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT    | L    | a  | R   | Ts  | Z | kg    | ①       |
|----------------------------------|----|-------|------|----|-----|-----|---|-------|---------|
| 46D08005TQRD05                   | 8  | 17,1  | 10   | 5  | 0,5 | T5  | 3 | 0,006 | WS-0043 |
| 46D10007T6RD05                   | 10 | 19,65 | 13   | 7  | 0,5 | T6  | 3 | 0,011 | WS-0029 |
| 46D10007T6RD10                   | 10 | 19,65 | 13   | 7  | 1   | T6  | 3 | 0,011 | WS-0029 |
| 46D12008T8RD05                   | 12 | 24,5  | 16,5 | 8  | 0,5 | T8  | 3 | 0,022 | WS-0030 |
| 46D12008T8RD10                   | 12 | 24,5  | 16,5 | 8  | 1   | T8  | 3 | 0,022 | WS-0030 |
| 46D12008T8RD30                   | 12 | 24,5  | 16,5 | 8  | 3   | T8  | 3 | 0,022 | WS-0030 |
| 46J16010TRRD21                   | 16 | 32,3  | 20,5 | 10 | -   | T10 | 3 | 0,047 | WS-0044 |
| 46D16010TRRD10                   | 16 | 32,3  | 20,5 | 10 | 1   | T10 | 3 | 0,047 | WS-0044 |
| 46D16010TRRD20                   | 16 | 32,3  | 20,5 | 10 | 2   | T10 | 3 | 0,047 | WS-0044 |
| 46D16010TRRD30                   | 16 | 32,3  | 20,5 | 10 | 3   | T10 | 3 | 0,046 | WS-0044 |
| 46D16010TRRD40                   | 16 | 32,3  | 20,5 | 10 | 4   | T10 | 3 | 0,047 | WS-0044 |
| 46D20012TSRD05                   | 20 | 39,3  | 25,5 | 12 | 0,5 | T12 | 3 | 0,086 | WS-0059 |
| 46D20012TSRD10                   | 20 | 39,3  | 25,5 | 12 | 1   | T12 | 3 | 0,085 | WS-0059 |
| 46D20012TSRD20                   | 20 | 39,3  | 25,5 | 12 | 2   | T12 | 3 | 0,086 | WS-0059 |
| 46D20012TSRD30                   | 20 | 39,3  | 25,5 | 12 | 3   | T12 | 3 | 0,085 | WS-0059 |
| 46D20012TSRD40                   | 20 | 39,3  | 25,5 | 12 | 4   | T12 | 3 | 0,084 | WS-0059 |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(P/K)</sub>  
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+ Preferred choice / Premier choix O Second choice / Second choix

Designation

Réf. de l'article

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Ts

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kg

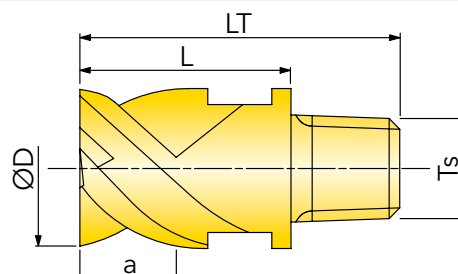
①



|                |      |       |      |    |     |     |   |       |         |
|----------------|------|-------|------|----|-----|-----|---|-------|---------|
| 46D07704TQRC02 | 7,7  | 17,1  | 10   | 4  | 0,2 | T5  | 3 | 0,006 | WS-0043 |
| 46D09705T6RC03 | 9,7  | 19,65 | 13   | 5  | 0,3 | T6  | 3 | 0,010 | WS-0029 |
| 46D11707T8RC03 | 11,7 | 24,5  | 16,5 | 7  | 0,3 | T8  | 3 | 0,022 | WS-0030 |
| 46D15708TRRC03 | 15,7 | 32,3  | 20,5 | 8  | 0,3 | T10 | 3 | 0,049 | WS-0044 |
| 46D19712TSRC04 | 19,7 | 39,3  | 25,5 | 12 | 0,4 | T12 | 3 | 0,090 | WS-0059 |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(P/K)</sub>  
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+ Preferred choice / Premier choix O Second choice / Second choix

Designation

Réf. de l'article

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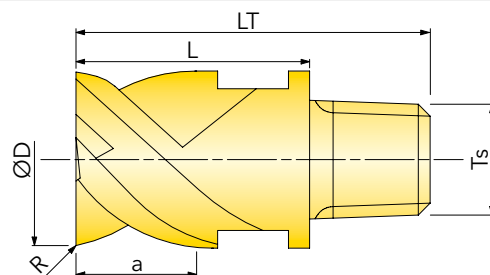
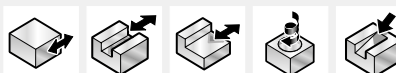
①



|                |    |       |      |    |     |   |       |         |
|----------------|----|-------|------|----|-----|---|-------|---------|
| 46J08005TQRD10 | 8  | 17,1  | 10   | 5  | T5  | 3 | 0,006 | WS-0043 |
| 46J10007T6RD13 | 10 | 19,65 | 13   | 7  | T6  | 3 | 0,012 | WS-0029 |
| 46J10012T6RD19 | 10 | 25,65 | 19   | 12 | T6  | 3 | 0,016 | WS-0029 |
| 46J12009T8RD17 | 12 | 24,5  | 16,5 | 9  | T8  | 3 | 0,023 | WS-0030 |
| 46J16012TRRD21 | 16 | 32,3  | 20,5 | 12 | T10 | 3 | 0,049 | WS-0044 |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

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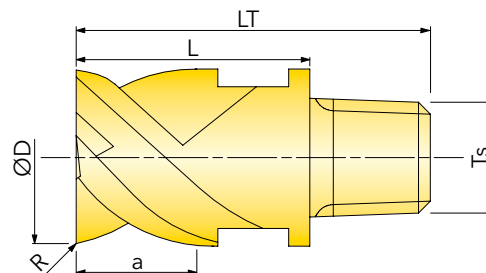
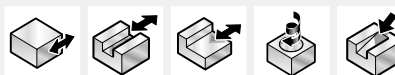
+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT    | L    | a    | R   | Ts  | Z | kg    | ①       |
|----------------------------------|----|-------|------|------|-----|-----|---|-------|---------|
| 47C11008T6RB02                   | 11 | 23,15 | 16,5 | 8,4  | -   | T6  | 4 | 0,031 | WS-0029 |
| 47D12009T8RB05                   | 12 | 24,5  | 16,5 | 9    | 0,5 | T8  | 4 | 0,024 | WS-0030 |
| 47D12009T8RB10                   | 12 | 24,5  | 16,5 | 9    | 1   | T8  | 4 | 0,023 | WS-0030 |
| 47C14011T8RB02                   | 14 | 36    | 28   | 11,5 | -   | T8  | 4 | 0,037 | WS-0030 |
| 47D16012TRRB05                   | 16 | 32,3  | 20,5 | 12   | 0,5 | T10 | 4 | 0,052 | WS-0044 |
| 47D16012TRRB10                   | 16 | 32,3  | 20,5 | 12   | 1   | T10 | 4 | 0,052 | WS-0044 |
| 47D16012TRRB15                   | 16 | 32,3  | 20,5 | 12   | 1,5 | T10 | 4 | 0,052 | WS-0044 |
| 47D16012TRRB20                   | 16 | 32,3  | 20,5 | 12   | 2   | T10 | 4 | 0,052 | WS-0044 |
| 47D16012TRRB30                   | 16 | 32,3  | 20,5 | 12   | 3   | T10 | 4 | 0,052 | WS-0044 |
| 47D20015TSRB05                   | 20 | 39,3  | 25,5 | 15   | 0,5 | T12 | 4 | 0,097 | WS-0059 |
| 47D20015TSRB10                   | 20 | 39,3  | 25,5 | 15   | 1   | T12 | 4 | 0,096 | WS-0059 |
| 47D20015TSRB20                   | 20 | 39,3  | 25,5 | 15   | 2   | T12 | 4 | 0,096 | WS-0059 |
| 47D20015TSRB30                   | 20 | 39,3  | 25,5 | 15   | 3   | T12 | 4 | 0,096 | WS-0059 |

① = Wrench / Clé de serrage



FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

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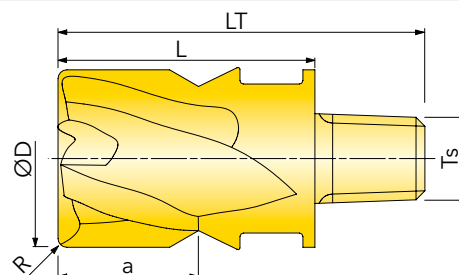
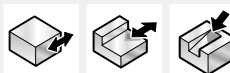


+ Preferred choice / Premier choix O Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT    | L    | a   | R   | Ts  | Z | kg    | ①       |
|----------------------------------|----|-------|------|-----|-----|-----|---|-------|---------|
| 47J06005TQRD10                   | 6  | 17,1  | 10   | 5,5 | -   | T5  | 4 | 0,005 | WS-0043 |
| 47J08005TQRD10                   | 8  | 17,1  | 10   | 5   | -   | T5  | 4 | 0,006 | WS-0043 |
| 47D08005TQRD05                   | 8  | 17,1  | 10   | 5   | 0,5 | T5  | 4 | 0,006 | WS-0043 |
| 47D08005TQRD10                   | 8  | 17,1  | 10   | 5   | 1   | T5  | 4 | 0,006 | WS-0043 |
| 47D08005TQRD15                   | 8  | 17,1  | 10   | 5   | 1,5 | T5  | 4 | 0,006 | WS-0043 |
| 47J10007T6RD13                   | 10 | 19,65 | 13   | 7   | -   | T6  | 4 | 0,013 | WS-0029 |
| 47D10007T6RD05                   | 10 | 19,65 | 13   | 7   | 0,5 | T6  | 4 | 0,012 | WS-0029 |
| 47D10007T6RD10                   | 10 | 19,65 | 13   | 7   | 1   | T6  | 4 | 0,013 | WS-0029 |
| 47J12009T8RD17                   | 12 | 24,5  | 16,5 | 9   | -   | T8  | 4 | 0,024 | WS-0030 |
| 47D12009T8RD05                   | 12 | 24,5  | 16,5 | 9   | 0,5 | T8  | 4 | 0,023 | WS-0030 |
| 47D12009T8RD10                   | 12 | 24,5  | 16,5 | 9   | 1   | T8  | 4 | 0,024 | WS-0030 |
| 47J16012TRRD21                   | 16 | 32,3  | 20,5 | 12  | -   | T10 | 4 | 0,052 | WS-0044 |
| 47D16012TRRD05                   | 16 | 32,3  | 20,5 | 12  | 0,5 | T10 | 4 | 0,052 | WS-0044 |
| 47D16012TRRD10                   | 16 | 32,3  | 20,5 | 12  | 1   | T10 | 4 | 0,052 | WS-0044 |
| 47D16012TRRD15                   | 16 | 32,3  | 20,5 | 12  | 1,5 | T10 | 4 | 0,051 | WS-0044 |
| 47D16012TRRD20                   | 16 | 32,3  | 20,5 | 12  | 2   | T10 | 4 | 0,051 | WS-0044 |
| 47D16012TRRD30                   | 16 | 32,3  | 20,5 | 12  | 3   | T10 | 4 | 0,052 | WS-0044 |
| 47J20015TSRD26                   | 20 | 39,3  | 25,5 | 15  | -   | T12 | 4 | 0,097 | WS-0059 |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

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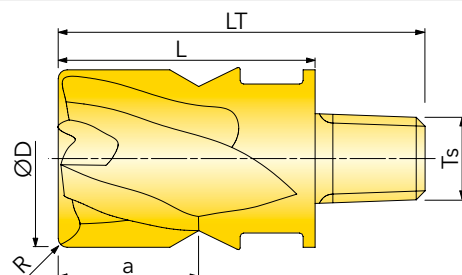
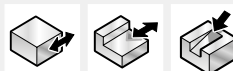


+ Preferred choice / Premier choix    ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT    | L    | a  | R   | Ts  | Z  | kg    | ①       |
|----------------------------------|----|-------|------|----|-----|-----|----|-------|---------|
| 48D10007T6RB05                   | 10 | 19,65 | 13   | 7  | 0,5 | T6  | 6  | 0,013 | WS-0029 |
| 48D10007T6RB10                   | 10 | 19,65 | 13   | 7  | 1   | T6  | 6  | 0,013 | WS-0029 |
| 48D10007T6RB15                   | 10 | 19,65 | 13   | 7  | 1,5 | T6  | 6  | 0,013 | WS-0029 |
| 48D12009T8RB05                   | 12 | 24,5  | 16,5 | 9  | 0,5 | T8  | 6  | 0,025 | WS-0030 |
| 48D12009T8RB10                   | 12 | 24,5  | 16,5 | 9  | 1   | T8  | 6  | 0,025 | WS-0030 |
| 48D16012TRRB05                   | 16 | 32,3  | 20,5 | 12 | 0,5 | T10 | 8  | 0,055 | WS-0044 |
| 48D16012TRRB10                   | 16 | 32,3  | 20,5 | 12 | 1   | T10 | 8  | 0,055 | WS-0044 |
| 48D16012TRRB16                   | 16 | 32,3  | 20,5 | 12 | 1,6 | T10 | 8  | 0,054 | WS-0044 |
| 48D16012TRRB20                   | 16 | 32,3  | 20,5 | 12 | 2   | T10 | 8  | 0,055 | WS-0044 |
| 49D20015TSRB10                   | 20 | 39,3  | 25,5 | 15 | 1   | T12 | 10 | 0,108 | WS-0059 |
| 49D20015TSRB20                   | 20 | 39,3  | 25,5 | 15 | 2   | T12 | 10 | 0,107 | WS-0059 |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

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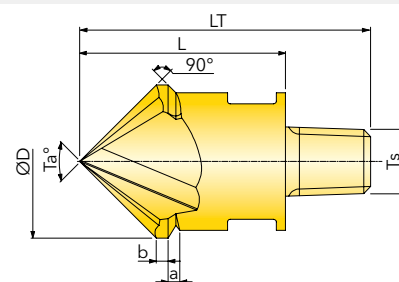


+ Preferred choice / Premier choix    ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | LT    | L    | a | R   | Ts | Z | kg    | ①       |
|----------------------------------|----|-------|------|---|-----|----|---|-------|---------|
| 48D08005TQRD05                   | 8  | 17,1  | 10   | 5 | 0,5 | T5 | 6 | 0,007 | WS-0043 |
| 48D08005TQRD10                   | 8  | 17,1  | 10   | 5 | 1   | T5 | 6 | 0,007 | WS-0043 |
| 48D08005TQRD15                   | 8  | 17,1  | 10   | 5 | 1,5 | T5 | 6 | 0,007 | WS-0043 |
| 48J10007T6RD13                   | 10 | 19,65 | 13   | 7 | -   | T6 | 6 | 0,013 | WS-0029 |
| 48D10007T6RD05                   | 10 | 19,65 | 13   | 7 | 0,5 | T6 | 6 | 0,013 | WS-0029 |
| 48D10007T6RD10                   | 10 | 19,65 | 13   | 7 | 1   | T6 | 6 | 0,013 | WS-0029 |
| 48D10007T6RD15                   | 10 | 19,65 | 13   | 7 | 1,5 | T6 | 6 | 0,015 | WS-0029 |
| 48J12009T8RD17                   | 12 | 24,5  | 16,5 | 9 | -   | T8 | 6 | 0,025 | WS-0030 |
| 48D12009T8RD05                   | 12 | 24,5  | 16,5 | 9 | 0,5 | T8 | 6 | 0,025 | WS-0030 |
| 48D12009T8RD10                   | 12 | 24,5  | 16,5 | 9 | 1   | T8 | 6 | 0,025 | WS-0030 |
| 48D12009T8RD15                   | 12 | 24,5  | 16,5 | 9 | 1,5 | T8 | 6 | 0,025 | WS-0030 |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

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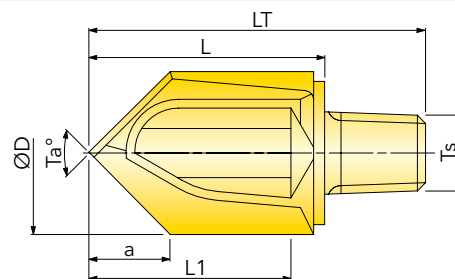


+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D    | LT    | L    | Ta | a   | b   | Ts | Z | kg    | ①       |
|----------------------------------|------|-------|------|----|-----|-----|----|---|-------|---------|
| 46N09409TQRA45                   | 9,4  | 19,6  | 12,5 | 90 | 0,9 | 1   | T5 | 3 | 0,007 | WS-0043 |
| 45N09809TQRA45                   | 9,8  | 17,9  | 10,8 | 90 | 0,9 | 2,5 | T5 | 2 | 0,006 | WS-0043 |
| 46N11610T6RA45                   | 11,6 | 23,15 | 16,5 | 90 | 1   | 1   | T6 | 3 | 0,014 | WS-0029 |
| 45N11814T6RA45                   | 11,8 | 18,65 | 12   | 90 | 1,1 | 2   | T6 | 2 | 0,009 | WS-0030 |
| 45N15722T8RA45                   | 15,7 | 22    | 14   | 90 | 2,2 | 2   | T8 | 2 | 0,016 | WS-0044 |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
 POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

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z9

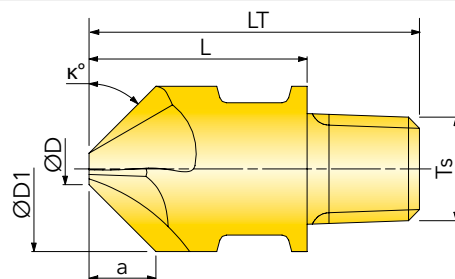
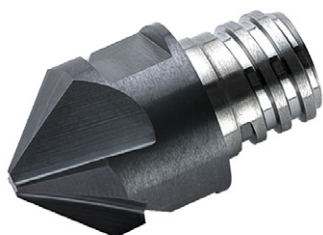


+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D    | LT    | L     | L1   | Ta  | a    | Ts  | Z | kg    | ①       |
|----------------------------------|------|-------|-------|------|-----|------|-----|---|-------|---------|
| 45N08007TQRA45                   | 8    | 16,85 | 9,75  | 7    | 90  | 3,7  | T5  | 2 | 0,005 | WS-0043 |
| 45N08307TQRA45                   | 8,3  | 17,1  | 10    | 7,5  | 90  | 3,8  | T5  | 2 | 0,005 | WS-0043 |
| 45M10009T6RA30                   | 10   | 18,4  | 11,75 | 9,5  | 60  | 7,8  | T6  | 2 | 0,007 | WS-0029 |
| 45N10010T6RA45                   | 10   | 20,65 | 14,0  | 10,1 | 90  | 4,5  | T6  | 2 | 0,009 | WS-0029 |
| 45P10009T6RA60                   | 10   | 19,35 | 12,7  | 9,5  | 120 | 2,7  | T6  | 2 | 0,009 | WS-0029 |
| 45N10409T6RA45                   | 10,4 | 18,4  | 11,75 | 9    | 90  | 4,7  | T6  | 2 | 0,009 | WS-0029 |
| 45M12012T8RA30                   | 12   | 23,2  | 15,2  | 12   | 60  | 9,3  | T8  | 2 | 0,014 | WS-0030 |
| 45N12012T8RA45                   | 12   | 23,5  | 15,5  | 12   | 90  | 5,5  | T8  | 2 | 0,016 | WS-0030 |
| 45P12012T8RA60                   | 12   | 23,2  | 15,2  | 12   | 120 | 3,5  | T8  | 2 | 0,016 | WS-0030 |
| 45N12412T8RA45                   | 12,4 | 23,5  | 15,5  | 12   | 90  | 5,7  | T8  | 2 | 0,016 | WS-0030 |
| 45M16015TRRA30                   | 16   | 32,1  | 20,3  | 15   | 60  | 12,7 | T10 | 2 | 0,032 | WS-0044 |
| 45N16016TRRA45                   | 16   | 31,8  | 20,0  | 15,7 | 90  | 7,4  | T10 | 2 | 0,037 | WS-0044 |
| 45P16015TRRA60                   | 16   | 31,7  | 19,9  | 15,5 | 120 | 4,4  | T10 | 2 | 0,037 | WS-0044 |
| 45N16515TRRA45                   | 16,5 | 30,6  | 18,8  | 15   | 90  | 7,5  | T10 | 2 | 0,034 | WS-0044 |
| 45M20018TSRA30                   | 20   | 38,5  | 24,7  | 18,5 | 60  | 15,5 | T12 | 2 | 0,055 | WS-0059 |
| 45N20018TSRA45                   | 20   | 38,5  | 24,7  | 18,5 | 90  | 7,7  | T12 | 2 | 0,058 | WS-0059 |
| 45P20018TSRA60                   | 20   | 34,9  | 21,1  | 14,9 | 120 | 5,9  | T12 | 2 | 0,056 | WS-0059 |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(S)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+ + + ○ + ○

D e8



+ Preferred choice / Premier choix ○ Second choice / Second choix

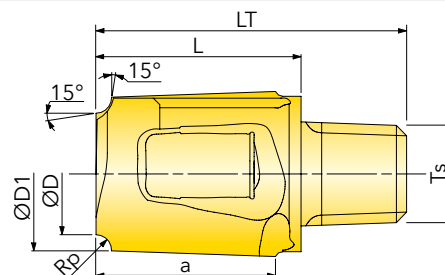
| Designation<br>Réf. de l'article | D    | D1 | LT    | L    | κ  | a   | Ts  | Z | kg    | ①       |
|----------------------------------|------|----|-------|------|----|-----|-----|---|-------|---------|
| 47N10002T6RA30                   | 2    | 10 | 19,65 | 13   | 30 | 2,3 | T6  | 4 | 0,014 | WS-0029 |
| 47N12002T8RA30                   | 2    | 12 | 24,5  | 16,5 | 30 | 2,9 | T8  | 4 | 0,027 | WS-0030 |
| 48N16003TRRA30                   | 3    | 16 | 32,3  | 20,5 | 30 | 3,7 | T10 | 6 | 0,061 | WS-0044 |
| 48N20004TSRA30                   | 5    | 20 | 39,3  | 25,5 | 30 | 4,3 | T12 | 6 | 0,113 | WS-0059 |
| 47N10004T6RA45                   | 1,95 | 10 | 19,65 | 13   | 45 | 4   | T6  | 4 | 0,013 | WS-0029 |
| 47N12005T8RA45                   | 1,95 | 12 | 24,5  | 16,5 | 45 | 5   | T8  | 4 | 0,025 | WS-0030 |
| 48N16006TRRA45                   | 3    | 16 | 32,3  | 20,5 | 45 | 6,5 | T10 | 6 | 0,056 | WS-0044 |
| 48N20007TSRA45                   | 5    | 20 | 39,3  | 25,5 | 45 | 7,5 | T12 | 6 | 0,106 | WS-0059 |
| 48N25010TURA45                   | 5    | 25 | 42,6  | 25   | 45 | 10  | T15 | 6 | 0,160 | WS-0061 |
| 47N10007T6RA60                   | 1,6  | 10 | 19,65 | 13   | 60 | 7,3 | T6  | 4 | 0,010 | WS-0029 |
| 47N12007T8RA60                   | 3    | 12 | 24,5  | 16,5 | 60 | 7,8 | T8  | 4 | 0,020 | WS-0030 |
| 48N16010TRRA60                   | 4    | 16 | 32,3  | 20,5 | 60 | 10  | T10 | 6 | 0,047 | WS-0044 |
| 48N20013TSRA60                   | 5    | 20 | 39,3  | 25,5 | 60 | 13  | T12 | 6 | 0,086 | WS-0059 |

① = Wrench / Clé de serrage



# **CHIPSURFER** CONCAVE RADIUS MILLING CUTTER Z=2 FRAISE RAYONNEE "CONCAVE" Z=2

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(P/K)</sub>

+ Preferred choice / Premier choix    ○ Second choice / Second choix

D h10

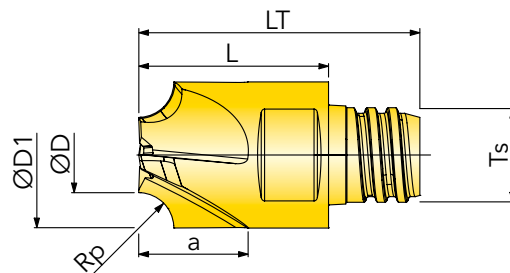


| Designation<br>Réf. de l'article | D   | D1   | LT    | L    | a   | Rp  | Ts  | Z | kg    | ①       |
|----------------------------------|-----|------|-------|------|-----|-----|-----|---|-------|---------|
| 45R08007TQRA10                   | 5,8 | 8    | 17,7  | 10,6 | 7,5 | 1   | T5  | 2 | 0,005 | WS-0043 |
| 45R10009T6RA16                   | 6,8 | 10   | 19,15 | 12,5 | 9,5 | 1,6 | T6  | 2 | 0,010 | WS-0029 |
| 45R10009T6RA20                   | 6   | 10   | 19,15 | 12,5 | 9,5 | 2   | T6  | 2 | 0,009 | WS-0029 |
| 45R10009T6RA25                   | 5,1 | 10   | 19,15 | 12,5 | 9,5 | 2,5 | T6  | 2 | 0,009 | WS-0029 |
| 45R12012T8RA30                   | 6,5 | 12,7 | 23,6  | 15,6 | 12  | 3   | T8  | 2 | 0,018 | WS-0030 |
| 45R12012T8RA40                   | 4,7 | 12,7 | 23,6  | 15,6 | 12  | 4   | T8  | 2 | 0,017 | WS-0030 |
| 45R16015TRRA50                   | 6,2 | 16   | 30,9  | 19,1 | 15  | 5   | T10 | 2 | 0,035 | WS-0044 |
| 45R20007TSRA60                   | 8   | 20   | 31,2  | 17,4 | 7   | 6   | T12 | 2 | 0,050 | WS-0059 |

① = Wrench / Clé de serrage

# **CHIPSURFER** CONCAVE RADIUS MILLING CUTTER Z=4 FRAISE RAYONNEE "CONCAVE" Z=4

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(P/K)</sub>

+ Preferred choice / Premier choix    ○ Second choice / Second choix

D h7

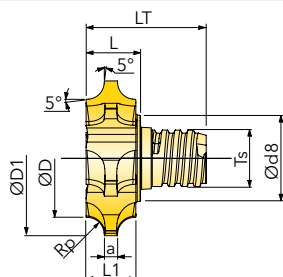


| Designation<br>Réf. de l'article | D   | D1   | LT    | L    | a   | Rp  | Ts | Z | kg    | ①       |
|----------------------------------|-----|------|-------|------|-----|-----|----|---|-------|---------|
| 47R08001TQRA10                   | 5,8 | 8    | 17,7  | 10   | 1   | 1   | T5 | 4 | 0,008 | WS-0043 |
| 47R10001T6RA16                   | 6,8 | 10   | 19,15 | 13   | 1,6 | 1,6 | T6 | 4 | 0,015 | WS-0029 |
| 47R10002T6RA20                   | 6   | 10   | 19,15 | 13   | 2   | 2   | T6 | 4 | 0,015 | WS-0029 |
| 47R10002T6RA25                   | 5,1 | 10   | 19,15 | 13   | 2,5 | 2,5 | T6 | 4 | 0,013 | WS-0029 |
| 47R12703T8RA30                   | 6,5 | 12,7 | 23,6  | 16,5 | 3   | 3   | T8 | 4 | 0,024 | WS-0030 |

① = Wrench / Clé de serrage

# **CHIPSURFER** CONCAVE RADIUS MILLING CUTTER Z=6 FRAISE RAYONNEE "CONCAVE" Z=6

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+ Preferred choice / Premier choix    O Second choice / Second choix

D h10



Designation  
Réf. de l'article

D D1 d8 LT L L1 a Rp Ts Z

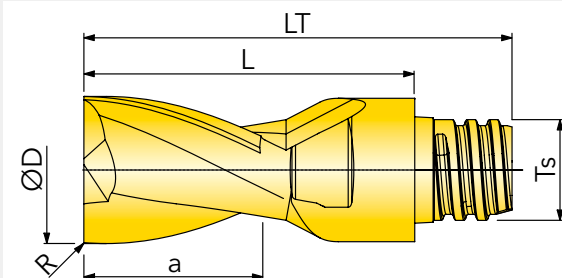


|                |      |      |      |      |      |      |     |   |     |   |         |
|----------------|------|------|------|------|------|------|-----|---|-----|---|---------|
| 18S27756TRRP10 | 24,8 | 27,7 | 15,3 | 17,8 | 6    | 5,6  | 2,7 | 1 | T10 | 6 | DS-T40L |
| 18S27773TRRP20 | 22,9 | 27,7 | 15,3 | 19,5 | 7,7  | 7,3  | 2,6 | 2 | T10 | 6 | DS-T40L |
| 18S27789TRRP30 | 21,1 | 27,7 | 15,3 | 21,5 | 9,7  | 8,9  | 2,3 | 3 | T10 | 6 | DS-T40L |
| 18S27799TRRP40 | 19,7 | 27,7 | 15,3 | 23,5 | 11,7 | 10,9 | 2,3 | 4 | T10 | 6 | DS-T40L |

① = Screw driver / Tournevis

# **CHIPSURFER** 90° FLAT DRILL HEAT 90° FRAISE A LAMER ET PERCER

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+ Preferred choice / Premier choix    O Second choice / Second choix

D h7



Designation  
Réf. de l'article

D LT L λ a R C Ts Z

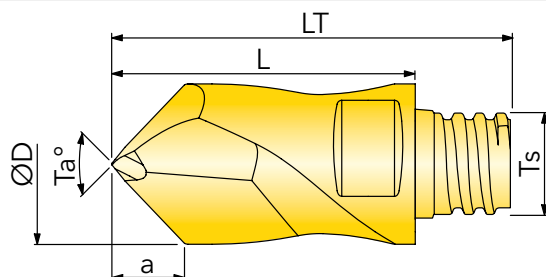
kg



|              |    |       |      |    |    |   |   |     |   |       |         |
|--------------|----|-------|------|----|----|---|---|-----|---|-------|---------|
| CND0800TQR01 | 8  | 25,1  | 18   | 30 | 10 | 0 | 0 | T5  | 2 | 0,009 | WS-0043 |
| CND1000T6R01 | 10 | 28,65 | 22   | 30 | 12 | 0 | 0 | T6  | 2 | 0,015 | WS-0029 |
| CND1200T8R01 | 12 | 35    | 27   | 30 | 15 | 0 | 0 | T8  | 2 | 0,027 | WS-0030 |
| CND1600TRR01 | 16 | 41,5  | 33,5 | 30 | 20 | 0 | 0 | T10 | 2 | 0,061 | WS-0044 |
| CND2000TSR01 | 20 | 52,5  | 41   | 30 | 25 | 0 | 0 | T12 | 2 | 0,110 | WS-0059 |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(P/K)</sub>  
+ + + + +

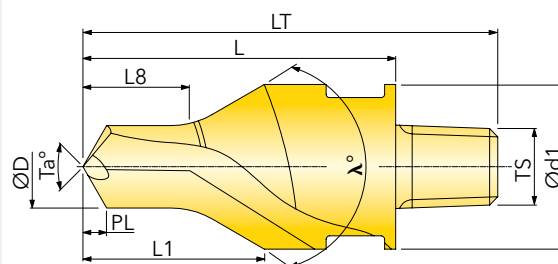
+ Preferred choice / Premier choix ○ Second choice / Second choix



| Designation<br>Réf. de l'article | D  | LT    | L  | Ta | a | Ts  | Z | kg    | ①       |
|----------------------------------|----|-------|----|----|---|-----|---|-------|---------|
| 45Z08004TQRA45                   | 8  | 22,1  | 15 | 90 | 5 | T5  | 2 | 0,005 | WS-0044 |
| 45Z10005TQRA45                   | 10 | 26,1  | 19 | 90 | 5 | T6  | 2 | 0,013 | WS-0029 |
| 45Z12006T6RA45                   | 12 | 29,65 | 23 | 90 | 6 | T8  | 2 | 0,022 | WS-0030 |
| 45Z16008TRRA45                   | 16 | 39,8  | 28 | 90 | 8 | T10 | 2 | 0,048 | WS-0044 |

① = Wrench / Clé de serrage

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(P/K)</sub>  
+ + + ○ +

+ Preferred choice / Premier choix ○ Second choice / Second choix

D z9

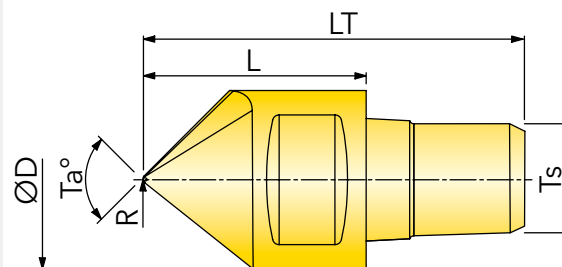


| Designation<br>Réf. de l'article | D    | d1 | LT    | L  | L1 | L7   | L8  | PL   | λ    | Ta  | Ts  | Z | kg    | ①       |
|----------------------------------|------|----|-------|----|----|------|-----|------|------|-----|-----|---|-------|---------|
| 45Z03208TQRA15                   | 3,28 | 8  | 22,1  | 15 | 8  | 3,75 | 4,6 | 0,85 | 59,5 | 120 | T5  | 2 | 0,006 | WS-0043 |
| 45Z04111T6RA19                   | 4,12 | 10 | 25,65 | 19 | 11 | 4,83 | 5,9 | 1,07 | 59,5 | 120 | T6  | 2 | 0,012 | WS-0029 |
| 45Z05113T8RA23                   | 5,13 | 12 | 31    | 23 | 13 | 5,88 | 7,2 | 1,32 | 59,5 | 120 | T8  | 2 | 0,022 | WS-0030 |
| 45Z06517TRRA28                   | 6,46 | 16 | 39,8  | 28 | 17 | 7,25 | 8,9 | 1,65 | 59,5 | 120 | T10 | 2 | 0,045 | WS-0044 |

① = Wrench / Clé de serrage

# **CHIPSURFER** ENGRAVING CUTTER 45°/60°/90° FRAISE POUR GRAVURE 45°/60°/90°

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

☒ P
 ☒ M
 ☒ K
 ☒ N<sub>(K)</sub>
☒ S<sub>(M)</sub>
☒ H<sub>(PK)</sub>

+ Preferred choice / Premier choix    ○ Second choice / Second choix



Designation

Réf. de l'article

D LT L Ta R Ts Z



①

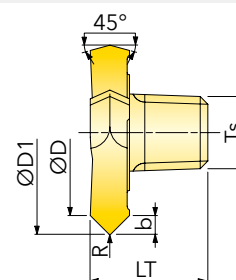


|                |   |      |    |    |     |    |   |       |         |
|----------------|---|------|----|----|-----|----|---|-------|---------|
| 45Q00810TQRA22 | 8 | 17,1 | 10 | 45 | 0,2 | T5 | 2 | 0,009 | WS-0043 |
| 45Q00810TQRA30 | 8 | 17,1 | 10 | 60 | 0,2 | T5 | 2 | 0,005 | WS-0043 |
| 45Q00810TQRA45 | 8 | 17,1 | 10 | 90 | 0,2 | T5 | 2 | 0,006 | WS-0043 |

① = Wrench / Clé de serrage

# **CHIPSURFER** SLOT MILL FOR CHAMFERING 45° Z=3 FRAISE A CHANFREINER "45°" A 3 DENTS

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

☒ P
 ☒ M
 ☒ K
 ☒ N<sub>(K)</sub>
☒ S<sub>(M)</sub>
☒ H<sub>(PK)</sub>

+ Preferred choice / Premier choix    ○ Second choice / Second choix

D ± 0,03



Designation

Réf. de l'article

D D1 LT b R Ts Z



①

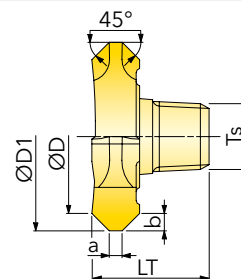


|                |      |      |      |     |     |    |   |       |         |
|----------------|------|------|------|-----|-----|----|---|-------|---------|
| 16N17734T6RK14 | 14,9 | 17,7 | 6,65 | 1,4 | 0,1 | T6 | 3 | 0,007 | DS-T25T |
| 16N17734T6RP14 | 14,9 | 17,7 | 6,65 | 1,4 | 0,1 | T6 | 3 | 0,007 | DS-T25T |

① = Screw driver / Tournevis

# **CHIPSURFER** SLOT MILL FOR CHAMFERING 45° Z=4 FRAISE À CHANFREINER "45°" À 4 DENTS

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
 + + + + + ○

+ Preferred choice / Premier choix ○ Second choice / Second choix

D ±0,03



Designation

Réf. de l'article

D D1 LT a b Ts Z



①



17N21755T8RK17

18,3 21,7 8 1,5 1,7 T8 4

0,020

DS-T30T

17N21755T8RP17

18,3 21,7 8 1,5 1,7 T8 4

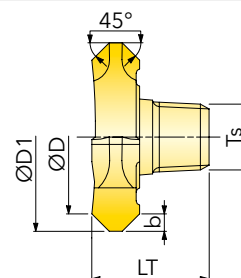
0,020

DS-T30T

① = Screw driver / Tournevis

# **CHIPSURFER** SLOT MILL FOR CHAMFERING 45° Z=4 (18N) FRAISE À CHANFREINER "45°" À 4 DENTS (18N)

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
 + + + + + ○

+ Preferred choice / Premier choix ○ Second choice / Second choix

D ±0,03



Designation

Réf. de l'article

D D1 LT b Ts Z



①



18N27798TRRK40

19,7 27,7 11,8 4,0 T10 4

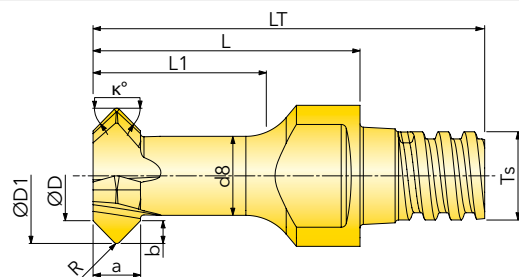
0,056

DS-T40L

① = Screw driver / Tournevis

# **CHIPSURFER** SLOT MILL FOR CHAMFERING Z=4 FRAISE À CHANFREINER PAR INTERPOLATION Z=4

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
 + + + ○ + ○

+ Preferred choice / Premier choix ○ Second choice / Second choix



Designation  
Réf. de l'article

D D1 d8 LT L L1 κ a b R Ts Z



①



17N07727TQRK12

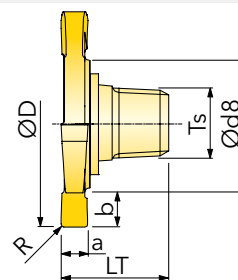
5,3 7,7 4,5 22,3 15,2 10,3 45 2,7 1,2 0,2 T5 4

0,007 WS-0043

① = Wrench / Clé de serrage

# **CHIPSURFER** T-SLOT CUTTER FOR O-RING GROOVES Z=3 (16R) FRAISE 3 TAILLES POUR RAINURES DE CIRCLIPS Z=3 (16R)

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
 + + + + + ○

+ Preferred choice / Premier choix ○ Second choice / Second choix

D ±0,03



Designation  
Réf. de l'article

D D min. d8 LT a b R Ts Z



①



16R15722T6RP11

15,7 16,0 10 6,65 2,2 2,8 1,1 T6 3

0,006 DS-T20T

16R17712T6RP06

17,7 18,0 10 6,65 1,2 3,8 0,6 T6 3

0,005 DS-T20T

16R17720T6RN10

17,7 18,0 10 6,65 2 3,8 1,0 T6 3

0,006 DS-T20T

16R17722T6RP11

17,7 18,0 10 6,65 2,2 3,8 1,1 T6 3

0,006 DS-T20T

16R17730T6RP15

17,7 18,0 10 6,65 3 3,8 1,5 T6 3

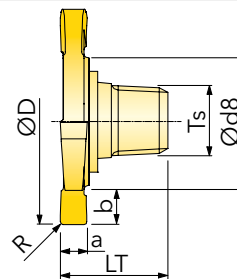
0,008 DS-T25T

① = Screw driver / Tournevis



# **CHIP SURFER** T-SLOT CUTTER FOR O-RING GROOVES Z=3 FRAISE 3 TAILLES POUR RAINURES DE CIRCLIPS Z=3

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+
+
+
+
+
O

D ±0,03



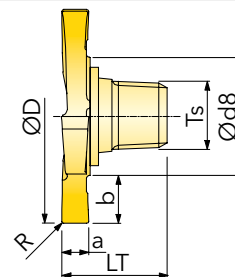
+ Preferred choice / Premier choix    O Second choice / Second choix

| Designation<br>Réf. de l'article | D    | D min. | d8 | LT   | a    | b   | R    | Ts | Z | kg    | ①       |
|----------------------------------|------|--------|----|------|------|-----|------|----|---|-------|---------|
| 16T15715T6RK01                   | 15,7 | 16     | 10 | 6,65 | 1,5  | 2,8 | 0,1  | T6 | 3 | 0,005 | DS-T20T |
| 16T15715T6RP01                   | 15,7 | 16     | 10 | 6,65 | 1,5  | 2,8 | 0,1  | T6 | 3 | 0,005 | DS-T20T |
| 16T15715T6RK02                   | 15,7 | 16     | 10 | 6,65 | 1,57 | 2,8 | 0,2  | T6 | 3 | 0,005 | DS-T20T |
| 16T15720T6RK02                   | 15,7 | 16     | 10 | 6,65 | 2    | 2,8 | 0,2  | T6 | 3 | 0,006 | DS-T20T |
| 16T15724T6RK02                   | 15,7 | 16     | 10 | 6,65 | 2,39 | 2,8 | 0,2  | T6 | 3 | 0,006 | DS-T25T |
| 16T15725T6RK02                   | 15,7 | 16     | 10 | 6,65 | 2,5  | 2,8 | 0,2  | T6 | 3 | 0,006 | DS-T25T |
| 16T15730T6RK02                   | 15,7 | 16     | 10 | 6,65 | 3    | 2,8 | 0,2  | T6 | 3 | 0,007 | DS-T25T |
| 16T15730T6RP02                   | 15,7 | 16     | 10 | 6,65 | 3    | 2,8 | 0,2  | T6 | 3 | 0,007 | DS-T25T |
| 16T15731T6RK02                   | 15,7 | 16     | 10 | 6,65 | 3,17 | 2,8 | 0,2  | T6 | 3 | 0,007 | DS-T25T |
| 16T17712T6RK00                   | 17,7 | 18     | 10 | 6,65 | 1,2  | 3,8 | 0,05 | T6 | 3 | 0,005 | DS-T20T |
| 16T17714T6RK00                   | 17,7 | 18     | 10 | 6,65 | 1,4  | 3,8 | 0,05 | T6 | 3 | 0,005 | DS-T20T |
| 16T17715T6RK01                   | 17,7 | 18     | 10 | 6,65 | 1,5  | 3,8 | 0,1  | T6 | 3 | 0,005 | DS-T20T |
| 16T17715T6RK02                   | 17,7 | 18     | 10 | 6,65 | 1,57 | 3,8 | 0,2  | T6 | 3 | 0,006 | DS-T20T |
| 16T17717T6RK00                   | 17,7 | 18     | 10 | 6,65 | 1,7  | 3,8 | 0,05 | T6 | 3 | 0,006 | DS-T20T |
| 16T17720T6RK02                   | 17,7 | 18     | 10 | 6,65 | 2    | 3,8 | 0,2  | T6 | 3 | 0,006 | DS-T20T |
| 16T17723T6RK02                   | 17,7 | 18     | 10 | 6,65 | 2,39 | 3,8 | 0,2  | T6 | 3 | 0,007 | DS-T20T |
| 16T17725T6RK02                   | 17,7 | 18     | 10 | 6,65 | 2,5  | 3,8 | 0,2  | T6 | 3 | 0,007 | DS-T20T |
| 16T17730T6RK02                   | 17,7 | 18     | 10 | 6,65 | 3    | 3,8 | 0,2  | T6 | 3 | 0,008 | DS-T25T |
| 16T17731T6RK02                   | 17,7 | 18     | 10 | 6,65 | 3,17 | 3,8 | 0,2  | T6 | 3 | 0,008 | DS-T25T |

① = Screw driver / Tournevis

**CHIPSURFER** T-SLOT CUTTER FOR O-RING GROOVES Z=4 (17R)  
 FRAISE 3 TAILLES POUR RAINURES DE CIRCLIPS Z=4 (17R)

FOR EXCHANGEABLE HEAD SYSTEM  
 POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(P/K)</sub>  
 + + + + + ○

D ±0,03



+ Preferred choice / Premier choix ○ Second choice / Second choix

Designation  
 Réf. de l'article

D d8 LT a b R Ts Z



①



17R21740T8RP20

21,7 12,7 8 4 4,5 2 T8 4

0,016 DS-T30T

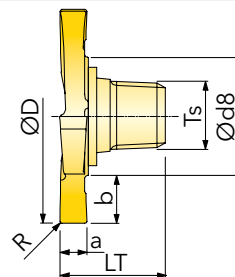
17R21760T8RK30

21,7 12,7 8 6 4,5 3 T8 4

0,020 DS-T30T

① = Screw driver / Tournevis

FOR EXCHANGEABLE HEAD SYSTEM  
 POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+
+
+
+
+
O

D ±0,03

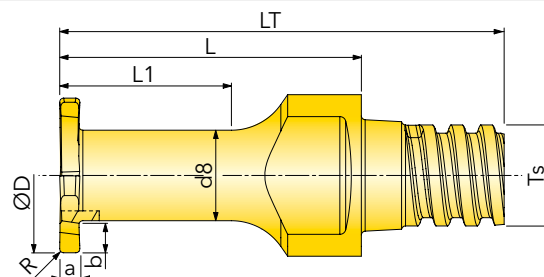
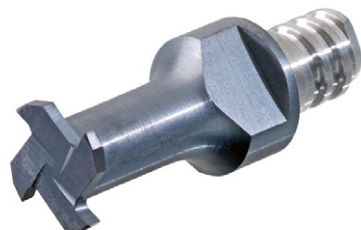


+ Preferred choice / Premier choix    O Second choice / Second choix

| Designation<br>Réf. de l'article | D    | d8   | LT | a    | b   | R    | Ts | Z | kg    | ①       |
|----------------------------------|------|------|----|------|-----|------|----|---|-------|---------|
| 17T21707T8RK00                   | 21,7 | 18,7 | 8  | 0,76 | 1,5 | -    | T8 | 4 | 0,009 | DS-T25T |
| 17T21708T8RK00                   | 21,7 | 18,3 | 8  | 0,86 | 1,7 | -    | T8 | 4 | 0,009 | DS-T25T |
| 17T21709T8RK00                   | 21,7 | 17,9 | 8  | 0,96 | 1,9 | -    | T8 | 4 | 0,009 | DS-T25T |
| 17T21710T8RK00                   | 21,7 | 17,7 | 8  | 1    | 2   | 0,05 | T8 | 4 | 0,009 | DS-T25T |
| 17T21712T8RK00                   | 21,7 | 12,7 | 8  | 1,2  | 4,5 | 0,05 | T8 | 4 | 0,009 | DS-T25T |
| 17T21714T8RK00                   | 21,7 | 12,7 | 8  | 1,4  | 4,5 | 0,05 | T8 | 4 | 0,009 | DS-T25T |
| 17T21715T8RK00                   | 21,7 | 12,7 | 8  | 1,57 | 4,5 | -    | T8 | 4 | 0,009 | DS-T25T |
| 17T21717T8RK01                   | 21,7 | 12,7 | 8  | 1,7  | 4,5 | 0,1  | T8 | 4 | 0,009 | DS-T25T |
| 17T21719T8RK02                   | 21,7 | 12,7 | 8  | 1,95 | 4,5 | 0,2  | T8 | 4 | 0,010 | DS-T25T |
| 17T21720T8RK02                   | 21,7 | 12,7 | 8  | 2    | 4,5 | 0,2  | T8 | 4 | 0,005 | DS-T25T |
| 17T21722T8RK02                   | 21,7 | 12,7 | 8  | 2,25 | 4,5 | 0,2  | T8 | 4 | 0,012 | DS-T25T |
| 17T21723T8RK02                   | 21,7 | 12,7 | 8  | 2,39 | 4,5 | 0,2  | T8 | 4 | 0,012 | DS-T25T |
| 17T21725T8RK02                   | 21,7 | 12,7 | 8  | 2,5  | 4,5 | 0,2  | T8 | 4 | 0,012 | DS-T25T |
| 17T21727T8RK02                   | 21,7 | 12,7 | 8  | 2,75 | 4,5 | 0,2  | T8 | 4 | 0,013 | DS-T25T |
| 17T21730T8RK02                   | 21,7 | 12,7 | 8  | 3    | 4,5 | 0,2  | T8 | 4 | 0,014 | DS-T25T |
| 17T21731T8RK02                   | 21,7 | 12,7 | 8  | 3,17 | 4,5 | 0,2  | T8 | 4 | 0,014 | DS-T25T |
| 17T21732T8RK02                   | 21,7 | 12,7 | 8  | 3,25 | 4,5 | 0,2  | T8 | 4 | 0,014 | DS-T25T |
| 17T21740T8RK02                   | 21,7 | 12,7 | 8  | 4    | 4,5 | 0,2  | T8 | 4 | 0,017 | DS-T25T |
| 17T21742T8RK02                   | 21,7 | 12,7 | 8  | 4,25 | 4,5 | 0,2  | T8 | 4 | 0,017 | DS-T25T |
| 17T21747T8RK02                   | 21,7 | 12,7 | 8  | 4,75 | 4,5 | 0,2  | T8 | 4 | 0,019 | DS-T25T |
| 17T21752T8RK02                   | 21,7 | 12,7 | 8  | 5,25 | 4,5 | 0,2  | T8 | 4 | 0,020 | DS-T25T |
| 17T21710T8RP00                   | 21,7 | 17,7 | 8  | 1    | 2   | 0,05 | T8 | 4 | 0,009 | DS-T25T |
| 17T21717T8RP01                   | 21,7 | 12,7 | 8  | 1,7  | 4,5 | 0,1  | T8 | 4 | 0,010 | DS-T25T |
| 17T21720T8RP02                   | 21,7 | 12,7 | 8  | 2    | 4,5 | 0,2  | T8 | 4 | 0,010 | DS-T25T |
| 17T21725T8RP02                   | 21,7 | 12,7 | 8  | 2,5  | 4,5 | 0,2  | T8 | 4 | 0,012 | DS-T25T |
| 17T21730T8RP02                   | 21,7 | 12,7 | 8  | 3    | 4,5 | 0,2  | T8 | 4 | 0,014 | DS-T25T |
| 17T21740T8RP02                   | 21,7 | 12,7 | 8  | 4    | 4,5 | 0,2  | T8 | 4 | 0,017 | DS-T25T |

① = Screw driver / Tournevis

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

| P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(P/K)</sub> |
|---|---|---|------------------|------------------|--------------------|
| + | + | + | ○                | +                | ○                  |

+ Preferred choice / Premier choix ○ Second choice / Second choix

D (D) +0/-0,05  
d (a) ±0,02

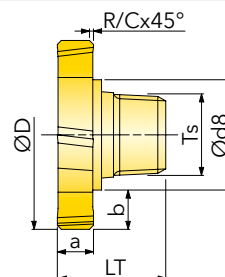


| Designation<br>Réf. de l'article | D   | d8  | LT   | L  | L1 | a   | b   | R   | Ts | Z | kg    | ①       |
|----------------------------------|-----|-----|------|----|----|-----|-----|-----|----|---|-------|---------|
| 17T07707TQRK02                   | 7,7 | 4,5 | 22,1 | 15 | 10 | 0,7 | 1,2 | 0,2 | T5 | 4 | 0,007 | WS-0043 |
| 17T07708TQRK02                   | 7,7 | 4,5 | 22,1 | 15 | 10 | 0,8 | 1,2 | 0,2 | T5 | 4 | 0,007 | WS-0043 |
| 17T07709TQRK02                   | 7,7 | 4,5 | 22,1 | 15 | 10 | 0,9 | 1,2 | 0,2 | T5 | 4 | 0,007 | WS-0043 |
| 17T07710TQRK02                   | 7,7 | 4,5 | 22,1 | 15 | 10 | 1   | 1,2 | 0,2 | T5 | 4 | 0,007 | WS-0043 |
| 17T07715TQRK02                   | 7,7 | 4,5 | 22,1 | 15 | 10 | 1,5 | 1,2 | 0,2 | T5 | 4 | 0,007 | WS-0043 |
| 17T07720TQRK02                   | 7,7 | 4,5 | 22,1 | 15 | 10 | 2   | 1,2 | 0,2 | T5 | 4 | 0,007 | WS-0043 |

① = Wrench / Clé de serrage

# **CHIP SURFER** SLOT MILL WITH CHAMFER OR CORNER RADIUS Z=6 FRAISE 3 TAILLES AVEC CHANFREIN OU RAYON Z=6

FOR EXCHANGEABLE HEAD SYSTEM  
POUR SYSTEME DE TETES INTERCHANGEABLES



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+ Preferred choice / Premier choix    O Second choice / Second choix

D (D) +0/-0,05  
d (a) ±0,02

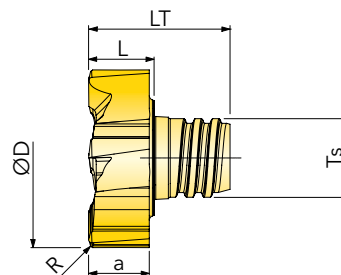
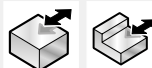


| Designation<br>Réf. de l'article | D    | d8   | LT   | a    | b    | R   | C    | Ts  | Z | kg    | ①       |
|----------------------------------|------|------|------|------|------|-----|------|-----|---|-------|---------|
| 18T13520TQRN00                   | 13,5 | 8,2  | 7,1  | 2    | 2,65 | -   | 0,15 | T5  | 6 | 0,006 | DS-T20T |
| 18T13525TQRN00                   | 13,5 | 8,2  | 7,1  | 2,5  | 2,65 | -   | 0,15 | T5  | 6 | 0,006 | DS-T20T |
| 18T13530TQRN04                   | 13,5 | 8,2  | 7,1  | 3    | 2,65 | 0,4 | -    | T5  | 6 | 0,006 | DS-T20T |
| 18T13540TQRN04                   | 13,5 | 8,2  | 7,1  | 4    | 2,65 | 0,4 | -    | T5  | 6 | 0,007 | DS-T20T |
| 18T16020T6RN04                   | 16   | 10   | 6,65 | 2    | 3    | 0,4 | -    | T6  | 6 | 0,005 | DS-T20T |
| 18T16030T6RN04                   | 16   | 10   | 6,65 | 3    | 3    | 0,4 | -    | T6  | 6 | 0,008 | DS-T25T |
| 18T16040T6RN04                   | 16   | 10   | 6,65 | 4    | 3    | 0,4 | -    | T6  | 6 | 0,010 | DS-T25T |
| 18T16520T6RN04                   | 16,5 | 10   | 6,65 | 2    | 3,25 | 0,4 | -    | T6  | 6 | 0,006 | DS-T25T |
| 18T16530T6RN04                   | 16,5 | 10   | 6,65 | 3    | 3,25 | 0,4 | -    | T6  | 6 | 0,008 | DS-T20T |
| 18T16540T6RN04                   | 16,5 | 10   | 6,65 | 4    | 3,25 | 0,4 | -    | T6  | 6 | 0,010 | DS-T30T |
| 18T19540T8RN04                   | 19,5 | 11,8 | 8    | 4    | 3,25 | 0,4 | -    | T8  | 6 | 0,016 | DS-T30T |
| 18T19550T8RN04                   | 19,5 | 11,8 | 8    | 5    | 3,25 | 0,4 | -    | T8  | 6 | 0,019 | DS-T30T |
| 18T19560T8RN04                   | 19,5 | 11,8 | 8    | 6    | 3,25 | 0,4 | -    | T8  | 6 | 0,022 | DS-T30T |
| 18T22550T8RN04                   | 22,5 | 11,8 | 8    | 5    | 4,75 | 0,4 | -    | T8  | 6 | 0,020 | DS-T40L |
| 18T22560T8RN04                   | 22,5 | 11,8 | 8    | 6    | 4,75 | 0,4 | -    | T8  | 6 | 0,024 | DS-T40L |
| 18T22580T8RN04                   | 22,5 | 11,8 | 8    | 8    | 4,75 | 0,4 | -    | T8  | 6 | 0,030 | DS-T40L |
| 18T25050T8RN04                   | 25   | 11,2 | 8    | 5    | 5,9  | 0,4 | -    | T8  | 6 | 0,029 | DS-T50L |
| 18T25060T8RN04                   | 25   | 11,2 | 8    | 6    | 5,9  | 0,4 | -    | T8  | 6 | 0,029 | DS-T50L |
| 18T25080T8RN04                   | 25   | 11,2 | 8    | 8    | 5,9  | 0,4 | -    | T8  | 6 | 0,038 | DS-T50L |
| 18T25050TRRN04                   | 25   | 16,4 | 11,8 | 5    | 4,3  | 0,4 | -    | T10 | 6 | 0,032 | DS-T50L |
| 18T25060TRRN04                   | 25   | 16,4 | 11,8 | 6    | 4,3  | 0,4 | -    | T10 | 6 | 0,037 | DS-T50L |
| 18T25080TRRN04                   | 25   | 16,4 | 11,8 | 8    | 4,3  | 0,4 | -    | T10 | 6 | 0,045 | DS-T50L |
| 18T27725TRRN02                   | 27,7 | 15,7 | 11,8 | 2,5  | 6    | 0,2 | -    | T10 | 6 | 0,024 | DS-T40L |
| 18T27752TRRN02                   | 27,7 | 15,7 | 11,8 | 5,25 | 6    | 0,2 | -    | T10 | 6 | 0,039 | DS-T40L |
| 18T27799TRRN02                   | 27,7 | 15,7 | 11,8 | 10   | 6    | 0,2 | -    | T10 | 6 | 0,064 | DS-T40L |

① = Screw driver / Tournevis

# **CHIPSURFER** FACE MILL Z=6 FRAISE À SURFACER-DRESSER Z=6

FOR EXCHANGEABLE HEAD SYSTEM  
 POUR SYSTÈME DE TÊTES INTERCHANGEABLES



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+ Preferred choice / Premier choix    ○ Second choice / Second choix

D e8



Designation  
 Réf. de l'article

D L a R Ts Z



①

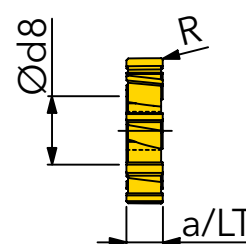
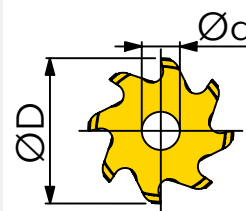
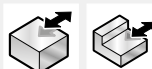


|                |    |     |     |     |     |   |       |         |
|----------------|----|-----|-----|-----|-----|---|-------|---------|
| 18F10036TQRA02 | 10 | 4,4 | 3,6 | 0,2 | T5  | 6 | 0,005 | DS-T20T |
| 18F12036TQRA02 | 12 | 4,4 | 3,6 | 0,2 | T5  | 6 | 0,005 | DS-T20T |
| 18F16048T6RA04 | 16 | 5,6 | 4,8 | 0,4 | T6  | 6 | 0,010 | DS-A00T |
| 18F20060T8RA04 | 20 | 6,8 | 6,0 | 0,4 | T8  | 6 | 0,024 | DS-T40L |
| 18F25075TRRA04 | 25 | 8,4 | 7,5 | 0,4 | T10 | 6 | 0,042 | DS-T50L |

① = Screw driver / Tournevis

# **MULTISURFER** CUTTER Z=6/8/10 FRAISE MULTIFONCTIONS Z=6/8/10

FOR MULTISURFER  
 POUR SYSTÈME MULTISURFER



Grade / Nuance

IN2005

P
M
K
N<sub>(K)</sub>
S<sub>(M)</sub>
H<sub>(PK)</sub>

+ Preferred choice / Premier choix    ○ Second choice / Second choix

D ± 0,05



Designation  
 Réf. de l'article

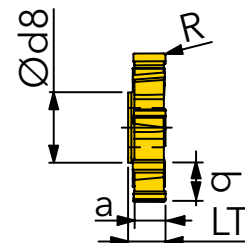
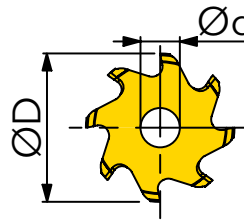
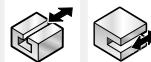
D d d8 LT a R Z XT



|                |       |     |    |    |    |     |    |    |       |
|----------------|-------|-----|----|----|----|-----|----|----|-------|
| 18F24280LPRA04 | 24,25 | 7,4 | 13 | 8  | 8  | 0,4 | 6  | 13 | 0,045 |
| 19F31280LQRA04 | 31,25 | 8,4 | 15 | 8  | 8  | 0,4 | 8  | 15 | 0,053 |
| 19F39210LRRA04 | 39,25 | 9,8 | 17 | 10 | 10 | 0,4 | 10 | 17 | 0,099 |



FOR MULTISURFER  
POUR SYSTÈME MULTISURFER

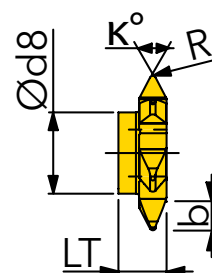
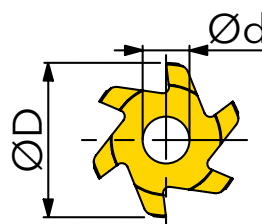


| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |     | D | ± 0,05     |            |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|-----|---|------------|------------|--|--|--|--|--|
| IN2005          | + | + | + |                  | +                | ○                 | ▽▽▽ | d | (a) ± 0,03 | ≤44<br>HRC |  |  |  |  |  |

+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▽ Pre-finishing / Semi-finition    ▼▽▽ Finishing / Finition

| Designation<br>Réf. de l'article | D    | d   | d8 | LT | a  | b   | R   | Z  | XT | kg    |
|----------------------------------|------|-----|----|----|----|-----|-----|----|----|-------|
| 18T24730LPRN04                   | 24,7 | 7,5 | 13 | 8  | 3  | 5,5 | 0,4 | 6  | 13 | 0,015 |
| 18T24740LPRN04                   | 24,7 | 7,5 | 13 | 8  | 4  | 5,5 | 0,4 | 6  | 13 | 0,017 |
| 18T24750LPRN04                   | 24,7 | 7,5 | 13 | 8  | 5  | 5,5 | 0,4 | 6  | 13 | 0,020 |
| 18T24760LPRN04                   | 24,7 | 7,5 | 13 | 8  | 6  | 5,5 | 0,4 | 6  | 13 | 0,021 |
| 18T24770LPRN04                   | 24,7 | 7,5 | 13 | 8  | 7  | 5,5 | 0,4 | 6  | 13 | 0,024 |
| 18T24780LPRN04                   | 24,7 | 7,5 | 13 | 8  | 8  | 5,5 | 0,4 | 6  | 13 | 0,025 |
| 19T31730LQRN04                   | 31,7 | 8,4 | 15 | 8  | 3  | 8   | 0,4 | 8  | 15 | 0,027 |
| 19T31740LQRN04                   | 31,7 | 8,4 | 15 | 8  | 4  | 8   | 0,4 | 8  | 15 | 0,030 |
| 19T31750LQRN04                   | 31,7 | 8,4 | 15 | 8  | 5  | 8   | 0,4 | 8  | 15 | 0,036 |
| 19T31760LQRN04                   | 31,7 | 8,4 | 15 | 8  | 6  | 8   | 0,4 | 8  | 15 | 0,041 |
| 19T31770LQRN04                   | 31,7 | 8,4 | 15 | 8  | 7  | 8   | 0,4 | 8  | 15 | 0,046 |
| 19T31780LQRN04                   | 31,7 | 8,4 | 15 | 8  | 8  | 8   | 0,4 | 8  | 15 | 0,051 |
| 19T39740LRRN04                   | 39,7 | 9,8 | 17 | 10 | 4  | 11  | 0,4 | 10 | 17 | 0,046 |
| 19T39750LRRN04                   | 39,7 | 9,8 | 17 | 10 | 5  | 11  | 0,4 | 10 | 17 | 0,055 |
| 19T39760LRRN04                   | 39,7 | 9,8 | 17 | 10 | 6  | 11  | 0,4 | 10 | 17 | 0,064 |
| 19T39770LRRN04                   | 39,7 | 9,8 | 17 | 10 | 7  | 11  | 0,4 | 10 | 17 | 0,073 |
| 19T39780LRRN04                   | 39,7 | 9,8 | 17 | 10 | 8  | 11  | 0,4 | 10 | 17 | 0,081 |
| 19T39790LRRN04                   | 39,7 | 9,8 | 17 | 10 | 9  | 11  | 0,4 | 10 | 17 | 0,091 |
| 19T39799LRRN04                   | 39,7 | 9,8 | 17 | 10 | 10 | 11  | 0,4 | 10 | 17 | 0,112 |

FOR MULTISURFER  
POUR SYSTÈME MULTISURFER



|                 |   |   |   |                  |                  |                   |     |   |        |            |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|-----|---|--------|------------|--|--|--|--|--|--|
| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> | ▼   | D | ± 0,05 | ≤44<br>HRC |  |  |  |  |  |  |
| IN2005          | + | + | + |                  | +                | ○                 | ▼▼▼ |   |        |            |  |  |  |  |  |  |

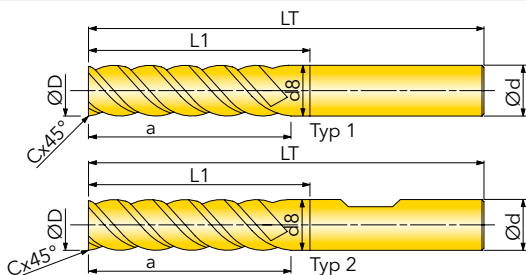
+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D    | D min. | d   | d8 | LT  | κ  | b   | R   | P   | TPI | Z  | XT | kg    |
|----------------------------------|------|--------|-----|----|-----|----|-----|-----|-----|-----|----|----|-------|
| 18Y24730LPRP60                   | 24,7 | 36     | 7,5 | 13 | 7,7 | 60 | 3,5 | 0,2 | 3-5 | 5-3 | 6  | 13 | 0,015 |
| 19Y31740LQRP60                   | 31,7 | 46     | 8,4 | 15 | 7,7 | 60 | 4,7 | 0,3 | 4-6 | 6-4 | 8  | 15 | 0,034 |
| 19Y39760LRRP60                   | 39,7 | 57     | 9,8 | 17 | 9,5 | 60 | 6,2 | 0,4 | 6-8 | 4-3 | 10 | 17 | 0,075 |
| 18Y24750LPRP55                   | 24,7 | 36     | 7,5 | 13 | 7,7 | 55 | 3,5 | 0,5 | -   | 5-3 | 6  | 13 | 0,015 |
| 19Y31760LQRP55                   | 31,7 | 46     | 8,4 | 15 | 7,7 | 55 | 4,7 | 0,5 | -   | 6-4 | 8  | 15 | 0,034 |
| 19Y39740LRRP60                   | 39,7 | 57     | 9,8 | 17 | 9,5 | 60 | 6,2 | 0,8 | -   | 4-3 | 10 | 17 | 0,075 |

# SOLID CARBIDE HPC ROUGHER & FINISHER UNEQUALLY SPACED Z=4 / Z=5

## FRAISE HPC RAVAGEUSE & FINITION-Z4 OU Z5

ADAPTION ACC. TO DIN 6535 HA / 6535 HB  
ATTACHEMENT DIN 6535 HA / 6535 HB



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+ + + + O

D

d

e8

h6



+ Preferred choice / Premier choix O Second choice / Second choix

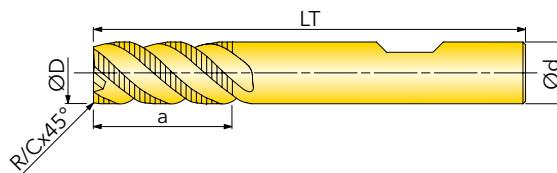
| Designation<br>Réf. de l'article | D  | d  | d8   | LT  | L1 | a  | C    | Typ | Z | kg    |
|----------------------------------|----|----|------|-----|----|----|------|-----|---|-------|
| 47C03008T7RQ010 <sup>1)</sup>    | 3  | 6  | 2,8  | 57  | 11 | 8  | 0,1  | 1   | 4 | 0,019 |
| 47C04010T7RQ010 <sup>1)</sup>    | 4  | 6  | 3,8  | 57  | 14 | 10 | 0,15 | 1   | 4 | 0,019 |
| 47C05012T7RQ010 <sup>1)</sup>    | 5  | 6  | 4,8  | 57  | 17 | 12 | 0,18 | 1   | 4 | 0,019 |
| 47C06014T7RQ020 <sup>1)</sup>    | 6  | 6  | 5,8  | 57  | 20 | 14 | 0,25 | 1   | 4 | 0,020 |
| 47C06014WERQ020 <sup>2)</sup>    | 6  | 6  | 5,8  | 57  | 20 | 14 | 0,25 | 2   | 4 | 0,020 |
| 47C08018T0RQ030 <sup>1)</sup>    | 8  | 8  | 7,8  | 63  | 26 | 18 | 0,3  | 1   | 4 | 0,039 |
| 47C10022T1RQ040 <sup>1)</sup>    | 10 | 10 | 9,8  | 72  | 32 | 22 | 0,4  | 1   | 4 | 0,068 |
| 47C12026T2RQ050 <sup>1)</sup>    | 12 | 12 | 11,7 | 83  | 38 | 26 | 0,5  | 1   | 4 | 0,113 |
| 47C12026W2RQ050 <sup>2)</sup>    | 12 | 12 | 11,7 | 83  | 38 | 26 | 0,5  | 2   | 4 | 0,112 |
| 47C16034T3RQ060 <sup>1)</sup>    | 16 | 16 | 15,7 | 100 | 50 | 34 | 0,6  | 1   | 4 | 0,238 |
| 47C16034W3RQ060 <sup>2)</sup>    | 16 | 16 | 15,7 | 100 | 50 | 34 | 0,6  | 2   | 4 | 0,237 |
| 47C20042T4RQ060 <sup>1)</sup>    | 20 | 20 | 19,7 | 110 | 60 | 42 | 0,6  | 1   | 4 | 0,395 |
| 47C20042W4RQ060                  | 20 | 20 | 19,7 | 110 | 60 | 42 | 0,6  | 2   | 4 | 0,392 |
| 47C06015WERQ021 <sup>2)</sup>    | 6  | 6  | -    | 57  | -  | 15 | 0,2  | 2   | 5 | 0,020 |
| 47C08020T0RQ021 <sup>1)</sup>    | 8  | 8  | -    | 63  | -  | 20 | 0,25 | 1   | 5 | 0,040 |
| 47C08020W0RQ021 <sup>2)</sup>    | 8  | 8  | -    | 63  | -  | 20 | 0,25 | 2   | 5 | 0,039 |
| 47C10025T1RQ031 <sup>1)</sup>    | 10 | 10 | -    | 72  | -  | 25 | 0,3  | 1   | 5 | 0,069 |
| 47C10025W1RQ031 <sup>2)</sup>    | 10 | 10 | -    | 72  | -  | 25 | 0,3  | 2   | 5 | 0,068 |
| 47C12030T2RQ041 <sup>1)</sup>    | 12 | 12 | -    | 83  | -  | 30 | 0,4  | 1   | 5 | 0,113 |
| 47C12030W2RQ041 <sup>2)</sup>    | 12 | 12 | -    | 83  | -  | 30 | 0,4  | 2   | 5 | 0,112 |
| 47C16040T3RQ051 <sup>1)</sup>    | 16 | 16 | -    | 100 | -  | 40 | 0,5  | 1   | 5 | 0,236 |
| 47C16040W3RQ051 <sup>2)</sup>    | 16 | 16 | -    | 100 | -  | 40 | 0,5  | 2   | 5 | 0,233 |
| 47C20050T4RQ051 <sup>1)</sup>    | 20 | 20 | -    | 125 | -  | 50 | 0,5  | 1   | 5 | 0,463 |
| 47C20050W4RQ051 <sup>2)</sup>    | 20 | 20 | -    | 125 | -  | 50 | 0,5  | 2   | 5 | 0,459 |

HPC rougher & finisher unequally spaced / Fraise HPC ébauche & finition à pas inégal

<sup>1)</sup> DIN 6535 HA / DIN 6535 HA; <sup>2)</sup> DIN 6535 HB / DIN 6535 HB

**SOLID CARBIDE** 4-7 FLUTE ROUGHERS - 2XD  
FRAISE RAVAGEUSE - 2XD-Z4 À Z7

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



Grade / Nuance

IN2005

| P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|---|---|---|------------------|------------------|-------------------|
| + | + | + |                  | +                | ○                 |

+ Preferred choice / Premier choix    ○ Second choice / Second choix

D

d

e9

h6

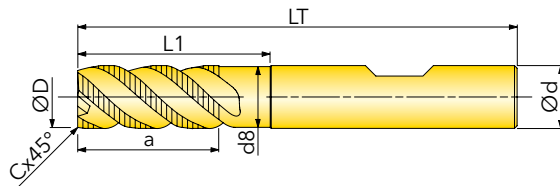


| Designation<br>Réf. de l'article | D  | d  | LT  | a  | R   | C    | Z | kg    |
|----------------------------------|----|----|-----|----|-----|------|---|-------|
| 47C05010WERN020                  | 5  | 6  | 57  | 10 | -   | 0,2  | 4 | 0,020 |
| 47C06012WERN020                  | 6  | 6  | 57  | 12 | -   | 0,25 | 4 | 0,020 |
| 47C08016WORN030                  | 8  | 8  | 63  | 16 | -   | 0,3  | 4 | 0,039 |
| 47C10020W1RN030                  | 10 | 10 | 72  | 20 | -   | 0,35 | 4 | 0,068 |
| 47C12024W2RN030                  | 12 | 12 | 83  | 24 | -   | 0,35 | 4 | 0,112 |
| 47D12024W2RN120                  | 12 | 12 | 83  | 24 | 1,2 | -    | 4 | 0,113 |
| 47C16032W3RN030 <sup>1)</sup>    | 16 | 16 | 92  | 32 | -   | 0,35 | 5 | 0,218 |
| 48C20040W4RN030 <sup>1)</sup>    | 20 | 20 | 104 | 40 | -   | 0,35 | 7 | 0,392 |

<sup>1)</sup> 5 or 7 flutes no center milling / 5 ou 7 dents pas de coupe au centre

# **SOLIDCARBIDE** 4-7 FLUTE ROUGHERS - 3XD FRAISE RAVAGEUSE - 3XD-Z4 À Z7

ADAPTION ACC. TO DIN 6535 HB  
 ATTACHEMENT DIN 6535 HB



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
 + + + + O

+ Preferred choice / Premier choix O Second choice / Second choix

D

d

e9

h6



Designation

Réf. de l'article

D

d

d8

LT

L1

a

C

Z

kg

47C06012WERN021

6

6

5,9

57

18

12

0,25

4

0,020

47C08016WORN031

8

8

7,8

63

24

16

0,3

4

0,039

47C10020W1RN031

10

10

9,8

72

30

20

0,35

4

0,068

47C12024W2RN031

12

12

11,7

83

36

24

0,35

4

0,112

47C16032W3RN031<sup>1)</sup>

16

16

15,7

100

48

32

0,35

5

0,238

48C20040W4RN031<sup>1)</sup>

20

20

19,7

110

60

40

0,35

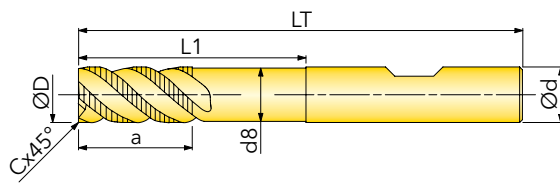
7

0,417

<sup>1)</sup> 5 or 7 flutes no center milling / 5 ou 7 dents pas de coupe au centre

# **SOLIDCARBIDE** 4-5 FLUTE ROUGHERS - 4XD FRAISE RAVAGEUSE - 4XD-Z4 OU Z5

ADAPTION ACC. TO DIN 6535 HB  
 ATTACHEMENT DIN 6535 HB



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
 + + + + O

+ Preferred choice / Premier choix O Second choice / Second choix

D

d

e9

h6



Designation

Réf. de l'article

D

d

d8

LT

L1

a

C

Z

kg

47C08012WORN030

8

8

7,8

68

32

12

0,3

4

0,042

47C10015W1RN030

10

10

9,8

80

40

15

0,35

4

0,078

47C12018W2RN030

12

12

11,7

100

48

18

0,35

4

0,142

47C16024W3RN030<sup>1)</sup>

16

16

15,7

115

64

24

0,35

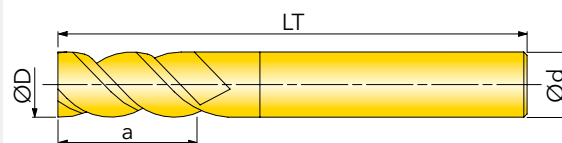
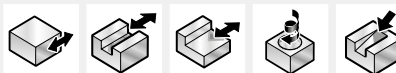
5

0,288

<sup>1)</sup> 5 flutes no center cutting / 5 dents pas de coupe au centre

**SOLID CARBIDE** 3 FLUTE SLOT DRILL - DIN 6535HA  
FRAISE EN BOUT-Z3-DIN 6535HA

ADAPTION ACC. TO DIN 6535 HA  
ATTACHEMENT DIN 6535 HA



Grade / Nuance

IN2005

P M K N<sub>(S)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+ + + + ○

D d e8 h6



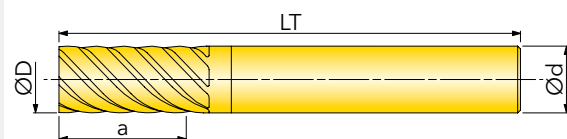
+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d  | LT  | a  | Z | kg    |
|----------------------------------|----|----|-----|----|---|-------|
| 46J02007T9RD380                  | 2  | 3  | 38  | 7  | 3 | 0,003 |
| 46J02007T7RD500                  | 2  | 6  | 57  | 7  | 3 | 0,019 |
| 46J03010T9RD380                  | 3  | 3  | 38  | 10 | 3 | 0,003 |
| 46J03010T7RD500                  | 3  | 6  | 57  | 10 | 3 | 0,018 |
| 46J04012U0RD500                  | 4  | 4  | 50  | 12 | 3 | 0,008 |
| 46J04012T7RD500                  | 4  | 6  | 57  | 12 | 3 | 0,017 |
| 46J05014U1RD500                  | 5  | 5  | 50  | 14 | 3 | 0,012 |
| 46J05014T7RD500                  | 5  | 6  | 57  | 14 | 3 | 0,019 |
| 46J06016T7RD500                  | 6  | 6  | 57  | 16 | 3 | 0,020 |
| 46J07016UARD600                  | 7  | 7  | 60  | 16 | 3 | 0,029 |
| 46J08020T0RD630                  | 8  | 8  | 63  | 20 | 3 | 0,039 |
| 46J09020U9RD670                  | 9  | 9  | 67  | 20 | 3 | 0,045 |
| 46J10022T1RD720                  | 10 | 10 | 72  | 22 | 3 | 0,069 |
| 46J12025T2RD730                  | 12 | 12 | 83  | 25 | 3 | 0,115 |
| 46J14025U8RD750                  | 14 | 14 | 83  | 25 | 3 | 0,155 |
| 46J16032T3RD820                  | 16 | 16 | 92  | 32 | 3 | 0,218 |
| 46J20038T4RD920                  | 20 | 20 | 104 | 38 | 3 | 0,382 |



**SOLID CARBIDE** 6 FLUTE END MILL - MEDIUM LENGTH (FINISHING)  
FRAISE EN BOUT-FINITION-SÉRIE MOYENNE-Z6

ADAPTION ACC. TO DIN 6535 HA  
ATTACHEMENT DIN 6535 HA



Grade / Nuance

IN2005

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+ + + + + ○

+ Preferred choice / Premier choix    ○ Second choice / Second choix

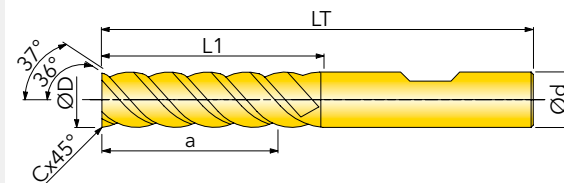
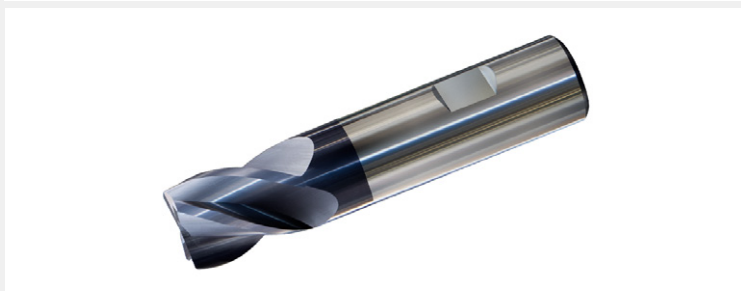
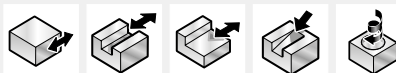
D  
d

e8  
h6



| Designation<br>Réf. de l'article | D  | d  | LT  | a  | Z | kg    |
|----------------------------------|----|----|-----|----|---|-------|
| 48J06016T7RD570                  | 6  | 6  | 57  | 16 | 6 | 0,021 |
| 48J08020T0RD630                  | 8  | 8  | 63  | 20 | 6 | 0,020 |
| 48J10022T1RD720                  | 10 | 10 | 72  | 22 | 6 | 0,073 |
| 48J12025T2RD830                  | 12 | 12 | 83  | 25 | 6 | 0,120 |
| 48J16032T3RD920                  | 16 | 16 | 92  | 32 | 6 | 0,231 |
| 48J20038T4RD100                  | 20 | 20 | 104 | 38 | 6 | 0,407 |

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



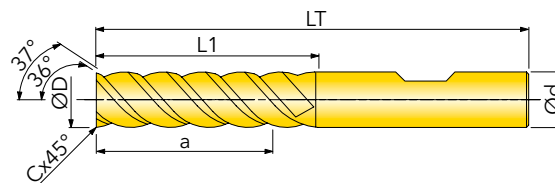
| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |     | D | h10 |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|-----|---|-----|--|--|--|--|--|--|--|
| IN2005          | + | ○ | + | ○                |                  |                   | ▼▼▼ | d | h6  |  |  |  |  |  |  |  |

+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | LT | L1 | a  | C    | Z |
|----------------------------------|----|----|----|----|----|------|---|
| 47C06010WERQ012                  | 6  | 6  | 54 | 20 | 10 | 0,12 | 4 |
| 47C08012W0RQ016                  | 8  | 8  | 58 | 21 | 12 | 0,16 | 4 |
| 47C10014W1RQ020                  | 10 | 10 | 66 | 24 | 14 | 0,20 | 4 |
| 47C12016W2RQ024                  | 12 | 12 | 73 | 26 | 16 | 0,24 | 4 |
| 47C16022W3RQ032                  | 16 | 16 | 82 | 32 | 22 | 0,32 | 4 |
| 47C20026W4RQ040                  | 20 | 20 | 92 | 42 | 26 | 0,40 | 4 |

**ECOLINE** HIGH SPEED CUTTER Z=4 LONG VERSION  
FRAISE CARBURE HPC - SÉRIE LONGUE Z=4 ECO

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



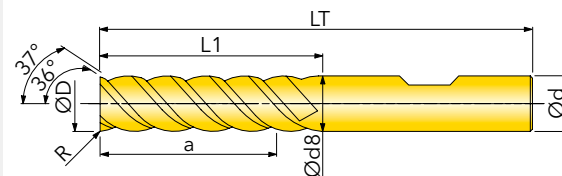
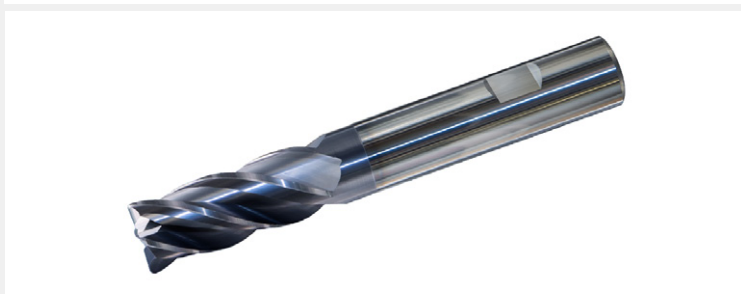
| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |     | D | h10 |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|-----|---|-----|--|--|--|--|--|--|--|
| IN2005          | + | ○ | + | ○                |                  |                   | ▼▼▼ | d | h6  |  |  |  |  |  |  |  |

+ Preferred choice / Premier choix   
 ○ Second choice / Second choix   
 ▼ Roughing / Ebauche   
 ▼▼ Pre-finishing / Semi-finition   
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | LT  | L1 | a  | C    | Z |
|----------------------------------|----|----|-----|----|----|------|---|
| 47C06013WERQ012                  | 6  | 6  | 57  | 23 | 13 | 0,12 | 4 |
| 47C08021WORQ016                  | 8  | 8  | 63  | 30 | 21 | 0,16 | 4 |
| 47C10022W1RQ020                  | 10 | 10 | 72  | 32 | 22 | 0,20 | 4 |
| 47C12026W2RQ024                  | 12 | 12 | 83  | 36 | 26 | 0,24 | 4 |
| 47C16036W3RQ040                  | 16 | 16 | 92  | 47 | 36 | 0,32 | 4 |
| 47C20041W4RQ040                  | 20 | 20 | 104 | 56 | 41 | 0,40 | 4 |

**ECOLINE** HIGH SPEED CUTTER Z=4 VERY LONG VERSION  
FRAISE CARBURE HPC - SÉRIE EXTRA LONGUE Z=4 ECO

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB

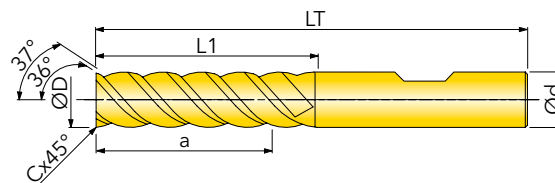
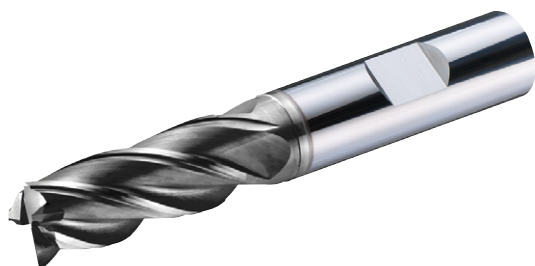


| Grade Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |     | D | h10 |  |  |  |  |  |  |  |
|--------------|---|---|---|------------------|------------------|-------------------|-----|---|-----|--|--|--|--|--|--|--|
| IN2005       | + | ○ | + | ○                |                  |                   | ▼▼▼ | d | h6  |  |  |  |  |  |  |  |

+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | LT  | L1 | a  | R   | Z |
|----------------------------------|----|----|-----|----|----|-----|---|
| 47D06019WERT020                  | 6  | 6  | 63  | 29 | 19 | 0,2 | 4 |
| 47D08023W0RT050                  | 8  | 8  | 70  | 33 | 23 | 0,5 | 4 |
| 47D10033W1RT050                  | 10 | 10 | 81  | 43 | 33 | 0,5 | 4 |
| 47D12037W2RT050                  | 12 | 12 | 94  | 47 | 37 | 0,5 | 4 |
| 47D16040W3RT100                  | 16 | 16 | 109 | 56 | 40 | 1   | 4 |
| 47D20048W4RT100                  | 20 | 20 | 120 | 64 | 48 | 1   | 4 |

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



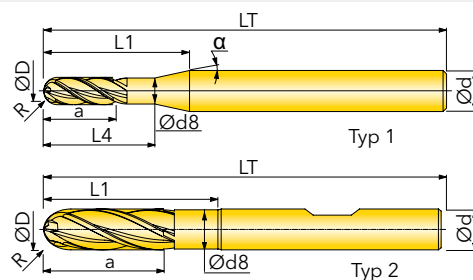
| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |     | D | e8 |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|-----|---|----|--|--|--|--|--|--|
| IN2005          | + | ○ | + |                  | ○                |                   | ▼▼▼ | d | h6 |  |  |  |  |  |  |

+ Preferred choice / Premier choix   
 ○ Second choice / Second choix   
 ▼ Roughing / Ebauche   
 ▼▼ Pre-finishing / Semi-finition   
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | LT  | L1 | a  | C    | Z | kg    |
|----------------------------------|----|----|-----|----|----|------|---|-------|
| 47C06013WERT120                  | 6  | 6  | 58  | 20 | 13 | 0,12 | 4 | 0,021 |
| 47C08021WORT160                  | 8  | 8  | 64  | 26 | 21 | 0,16 | 4 | 0,035 |
| 47C10022W1RT200                  | 10 | 10 | 73  | 31 | 22 | 0,20 | 4 | 0,070 |
| 47C12026W2RT240                  | 12 | 12 | 84  | 38 | 26 | 0,24 | 4 | 0,112 |
| 47C16036W3RT320                  | 16 | 16 | 93  | 44 | 36 | 0,32 | 4 | 0,213 |
| 47C20041W4RT400                  | 20 | 20 | 105 | 54 | 41 | 0,40 | 4 | 0,378 |

**PREMIUMLINE** HPC BALLNOSE CUTTER Z=4 (PL)  
FRAISE HÉMISPÉRIQUE HPC Z=4 (PL)

ADAPTION ACC. TO DIN 1835 B (WELDON)  
ATTACHEMENT DIN 1835 B (WELDON)



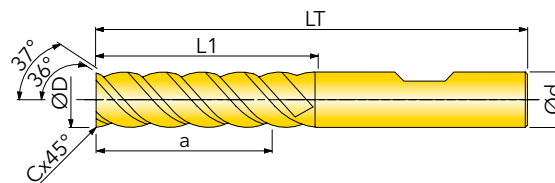
| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |     | D   | e8      |                      |   |         |  |
|-----------------|---|---|---|------------------|------------------|-------------------|-----|-----|---------|----------------------|---|---------|--|
| IN2505          | + | + | + |                  | +                | O                 | ▼▼  | C/R | ± 0,005 | λ <sub>max</sub> 60° | ⊗ | ≤44 HRC |  |
|                 |   |   |   |                  |                  |                   | ▼▼▼ | d   | h6      |                      |   |         |  |

+ Preferred choice / Premier choix    O Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | d8   | LT  | L1 | L4 | α  | a  | R   | Typ   | Z | kg   |
|----------------------------------|----|----|------|-----|----|----|----|----|-----|-------|---|------|
| 47B04010WERC580                  | 4  | 6  | 3,8  | 58  | 21 | 16 | 15 | 10 | 2   | Typ 1 | 4 | 0,02 |
| 47B05013WERC580                  | 5  | 6  | 4,7  | 58  | 21 | 19 | 15 | 13 | 2,5 | Typ 1 | 4 | 0,02 |
| 47B06013WERC580                  | 6  | 6  | 5,6  | 58  | 21 | -  | -  | 13 | 3   | Typ 2 | 4 | 0,02 |
| 47B08016W0RC640                  | 8  | 8  | 7,6  | 64  | 27 | -  | -  | 16 | 4   | Typ 2 | 4 | 0,04 |
| 47B10022W1RC730                  | 10 | 10 | 9,6  | 73  | 32 | -  | -  | 22 | 5   | Typ 2 | 4 | 0,07 |
| 47B12026W2RC840                  | 12 | 12 | 11,6 | 84  | 37 | -  | -  | 26 | 6   | Typ 2 | 4 | 0,10 |
| 47B14026WFRC840                  | 14 | 14 | 13,6 | 84  | 37 | -  | -  | 26 | 7   | Typ 2 | 4 | 0,20 |
| 47B16032W3RC930                  | 16 | 16 | 15,6 | 93  | 40 | -  | -  | 32 | 8   | Typ 2 | 4 | 0,30 |
| 47B20038W4RC100                  | 20 | 20 | 19,6 | 105 | 51 | -  | -  | 38 | 10  | Typ 2 | 4 | 0,40 |

**PREMIUMLINE** HPC CUTTER Z=4 (PL)  
FRAISE HPC Z=4 (PREMIUM LINE)

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |     | D | e8 |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|-----|---|----|--|--|--|--|--|--|--|
| IN2505          | + | ○ | + |                  | ○                |                   | ▼▼▼ | d | h6 |  |  |  |  |  |  |  |

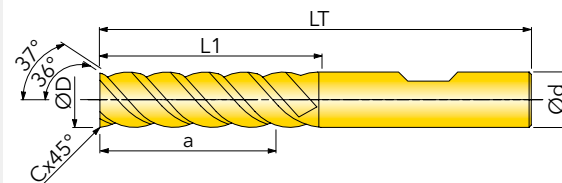
+ Preferred choice / Premier choix   
 ○ Second choice / Second choix   
 ▼ Roughing / Ebauche   
 ▼▼ Pre-finishing / Semi-finition   
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | LT  | L1 | a  | C    | Z | kg    |
|----------------------------------|----|----|-----|----|----|------|---|-------|
| 47C03007WERQ100                  | 3  | 6  | 58  | 10 | 7  | 0,10 | 4 | 0,020 |
| 47C04009WERQ100                  | 4  | 6  | 58  | 16 | 9  | 0,10 | 4 | 0,019 |
| 47C05011WERQ100                  | 5  | 6  | 58  | 19 | 11 | 0,10 | 4 | 0,021 |
| 47C06013WERQ120                  | 6  | 6  | 58  | 20 | 13 | 0,12 | 4 | 0,021 |
| 47C08021W0RQ160                  | 8  | 8  | 64  | 26 | 21 | 0,16 | 4 | 0,035 |
| 47C10022W1RQ200                  | 10 | 10 | 73  | 31 | 22 | 0,20 | 4 | 0,070 |
| 47C12026W2RQ240                  | 12 | 12 | 84  | 38 | 26 | 0,24 | 4 | 0,112 |
| 47C16036W3RQ320                  | 16 | 16 | 93  | 44 | 36 | 0,32 | 4 | 0,213 |
| 47C20041W4RQ400                  | 20 | 20 | 105 | 54 | 41 | 0,40 | 4 | 0,378 |



**PREMIUMLINE** HPC CUTTER Z=4 (PL) LONG VERSION  
FAISE HPC Z=4 (PREMIUM LINE) - VERSION LONGUE

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



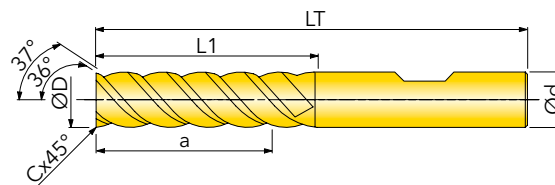
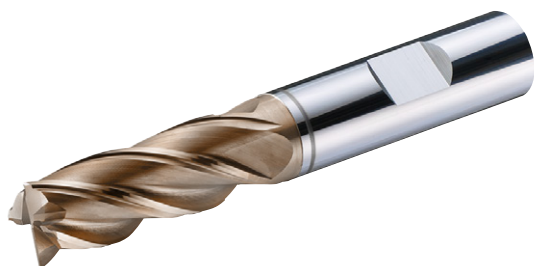
| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |     | D | e8 |  |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|-----|---|----|--|--|--|--|--|--|--|--|
| IN2505          | + | ○ | + |                  | ○                |                   | ▼▼▼ | d | h6 |  |  |  |  |  |  |  |  |

+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | LT  | L1 | a  | C    | Z | kg    |
|----------------------------------|----|----|-----|----|----|------|---|-------|
| 47C03010WERQ100                  | 3  | 6  | 58  | 13 | 10 | 0,10 | 4 | 0,019 |
| 47C04014WERQ100                  | 4  | 6  | 58  | 20 | 14 | 0,10 | 4 | 0,018 |
| 47C05016WERQ100                  | 5  | 6  | 58  | 21 | 16 | 0,10 | 4 | 0,020 |
| 47C06019WERT120                  | 6  | 6  | 63  | 26 | 19 | 0,12 | 4 | 0,033 |
| 47C08023W0RT160                  | 8  | 8  | 70  | 33 | 23 | 0,16 | 4 | 0,050 |
| 47C10033W1RT200                  | 10 | 10 | 81  | 40 | 33 | 0,20 | 4 | 0,077 |
| 47C12037W2RT240                  | 12 | 12 | 94  | 47 | 37 | 0,24 | 4 | 0,090 |
| 47C16040W3RT320                  | 16 | 16 | 109 | 56 | 40 | 0,32 | 4 | 0,150 |
| 47C20048W4RT400                  | 20 | 20 | 120 | 64 | 48 | 0,40 | 4 | 0,400 |

**PREMIUMLINE** HPC CUTTER Z=4 (PL) S  
FRAISE HPC Z=4 (PREMIUM LINE) INOX

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



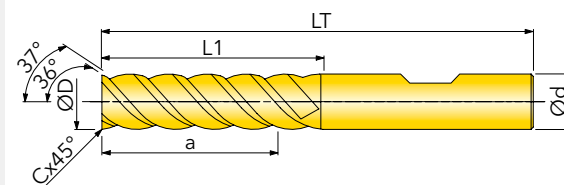
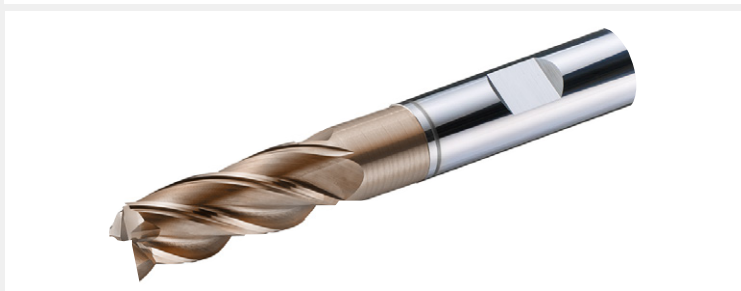
| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |     | D | e8 |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|-----|---|----|--|--|--|--|--|--|--|
| IN2205          | ○ | + | ○ |                  | +                |                   | ▼▼▼ | d | h6 |  |  |  |  |  |  |  |

+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | LT  | L1 | a  | C    | Z | kg    |
|----------------------------------|----|----|-----|----|----|------|---|-------|
| 47C03007WERQ101                  | 3  | 6  | 58  | 10 | 7  | 0,10 | 4 | 0,020 |
| 47C04009WERQ101                  | 4  | 6  | 58  | 16 | 9  | 0,10 | 4 | 0,019 |
| 47C05011WERQ101                  | 5  | 6  | 58  | 19 | 11 | 0,10 | 4 | 0,021 |
| 47C06013WERQ121                  | 6  | 6  | 58  | 21 | 13 | 0,12 | 4 | 0,021 |
| 47C08021W0RQ161                  | 8  | 8  | 64  | 27 | 21 | 0,16 | 4 | 0,035 |
| 47C10022W1RQ201                  | 10 | 10 | 73  | 32 | 22 | 0,20 | 4 | 0,070 |
| 47C12026W2RQ243                  | 12 | 12 | 84  | 38 | 26 | 0,24 | 4 | 0,112 |
| 47C16036W3RQ321                  | 16 | 16 | 93  | 44 | 36 | 0,32 | 4 | 0,213 |
| 47C20041W4RQ401                  | 20 | 20 | 105 | 54 | 41 | 0,40 | 4 | 0,378 |

**PREMIUMLINE** HPC CUTTER Z=4 (PL) S LONG VERSION  
FRAISE HPC Z=4 (PREMIUM LINE) INOX - VERSION LONGUE

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB

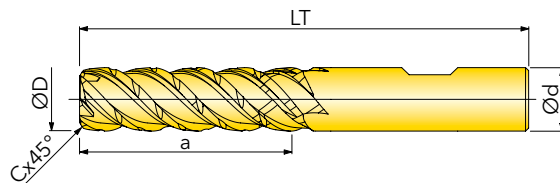


| Grade Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |     | D | e8 |  |  |  |  |  |  |  |
|--------------|---|---|---|------------------|------------------|-------------------|-----|---|----|--|--|--|--|--|--|--|
| IN2205       | ○ | + | ○ |                  | +                |                   | ▼▼▼ | d | h6 |  |  |  |  |  |  |  |

+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | LT  | L1 | a  | C    | Z | kg    |
|----------------------------------|----|----|-----|----|----|------|---|-------|
| 47C03010WERQ101                  | 3  | 6  | 58  | 13 | 10 | 0,10 | 4 | 0,019 |
| 47C04014WERQ101                  | 4  | 6  | 58  | 20 | 14 | 0,10 | 4 | 0,018 |
| 47C05016WERQ101                  | 5  | 6  | 58  | 21 | 16 | 0,10 | 4 | 0,020 |
| 47C06019WERT121                  | 6  | 6  | 63  | 26 | 19 | 0,12 | 4 | 0,033 |
| 47C08023W0RT161                  | 8  | 8  | 70  | 33 | 23 | 0,16 | 4 | 0,050 |
| 47C10033W1RT201                  | 10 | 10 | 81  | 40 | 33 | 0,20 | 4 | 0,077 |
| 47C12037W2RT241                  | 12 | 12 | 94  | 47 | 37 | 0,24 | 4 | 0,090 |
| 47C16040W3RT321                  | 16 | 16 | 109 | 56 | 40 | 0,32 | 4 | 0,150 |
| 47C20048W4RT401                  | 20 | 20 | 120 | 64 | 48 | 0,40 | 4 | 0,400 |

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB

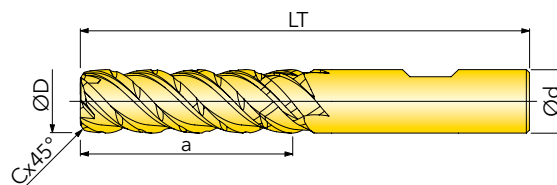


| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |    | D   | e8    |         |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|----|-----|-------|---------|--|--|--|--|--|
| IN2505          | + | ○ | + |                  |                  |                   | ▼▼ | C/R | ±0.05 | λ = 43° |  |  |  |  |  |
|                 |   |   |   |                  |                  |                   |    | d   | h6    |         |  |  |  |  |  |

+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | LT  | a  | C    | Z | kg    |
|----------------------------------|----|----|-----|----|------|---|-------|
| 47C06024WERD010                  | 6  | 6  | 65  | 24 | 0,12 | 4 | 0,023 |
| 47C08032WORD020                  | 8  | 8  | 76  | 32 | 0,16 | 4 | 0,046 |
| 47C10040W1RD020                  | 10 | 10 | 90  | 40 | 0,20 | 4 | 0,085 |
| 47C12044W2RD020                  | 12 | 12 | 100 | 44 | 0,24 | 4 | 0,138 |
| 47C16055W3RD030                  | 16 | 16 | 109 | 55 | 0,32 | 4 | 0,260 |
| 47C20065W4RD040                  | 20 | 20 | 126 | 65 | 0,40 | 4 | 0,477 |

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB

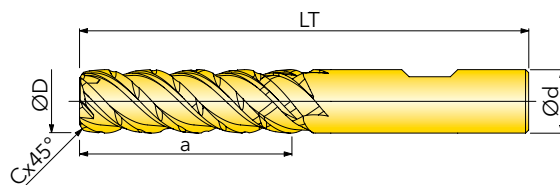


|                 |   |   |   |                  |                  |                   |  |     |       |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|--|-----|-------|--|--|--|--|--|--|--|
| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |  | D   | e8    |  |  |  |  |  |  |  |
| IN2205          | O | + |   |                  | +                |                   |  | C/R | ±0.05 |  |  |  |  |  |  |  |
|                 |   |   |   |                  |                  |                   |  | d   | h6    |  |  |  |  |  |  |  |

+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | LT  | a  | C    | Z | kg    |
|----------------------------------|----|----|-----|----|------|---|-------|
| 47C06024WERD012                  | 6  | 6  | 65  | 24 | 0,12 | 4 | 0,023 |
| 47C08032WORD022                  | 8  | 8  | 76  | 32 | 0,16 | 4 | 0,046 |
| 47C10040W1RD022                  | 10 | 10 | 90  | 40 | 0,20 | 4 | 0,085 |
| 47C12044W2RD022                  | 12 | 12 | 100 | 44 | 0,24 | 4 | 0,138 |
| 47C16055W3RD032                  | 16 | 16 | 109 | 55 | 0,32 | 4 | 0,260 |
| 47C20065W4RD042                  | 20 | 20 | 126 | 65 | 0,40 | 4 | 0,477 |

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB

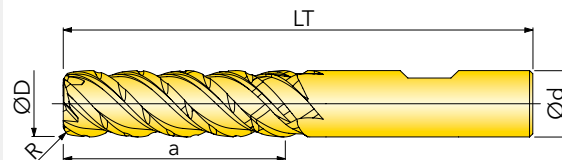


| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |    | D   | e8    |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|----|-----|-------|--|--|--|--|--|--|
| IN2505          | + | ○ | + |                  |                  |                   | ▼▼ | C/R | ±0.05 |  |  |  |  |  |  |
|                 |   |   |   |                  |                  |                   |    | d   | h6    |  |  |  |  |  |  |

+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | LT  | a  | C    | Z | kg    |
|----------------------------------|----|----|-----|----|------|---|-------|
| 47C06024WERD011                  | 6  | 6  | 65  | 24 | 0,12 | 5 | 0,023 |
| 47C08032WORD021                  | 8  | 8  | 76  | 32 | 0,16 | 5 | 0,048 |
| 47C10040W1RD021                  | 10 | 10 | 90  | 40 | 0,20 | 5 | 0,083 |
| 47C12044W2RD021                  | 12 | 12 | 100 | 44 | 0,24 | 5 | 0,137 |
| 47C16055W3RD031                  | 16 | 16 | 109 | 55 | 0,32 | 5 | 0,271 |
| 47C20065W4RD041                  | 20 | 20 | 126 | 65 | 0,40 | 5 | 0,487 |

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2505          | + | O | + |                  |                  |                   |

D  
C/R  
d

e8  
±0.05  
h6



+ Preferred choice / Premier choix    O Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

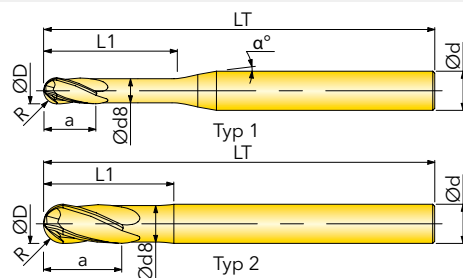
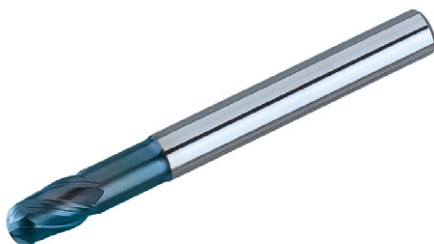
| Designation<br>Réf. de l'article | D  | d  | LT  | a   | R   | Z | kg    |
|----------------------------------|----|----|-----|-----|-----|---|-------|
| 47D10055W1RN030                  | 10 | 10 | 107 | 55  | 0,3 | 5 | 0,098 |
| 47D12063W2RN050                  | 12 | 12 | 120 | 63  | 0,5 | 5 | 0,164 |
| 47D16085W3RN100                  | 16 | 16 | 150 | 85  | 1   | 5 | 0,330 |
| 47D20099W4RN100                  | 20 | 20 | 185 | 105 | 1   | 5 | 0,584 |



ADAPTION ACC. TO DIN 6535 HA  
ATTACHEMENT DIN 6535 HA



4 flutes for a high stock removal rate (general roughing operations up to 58 HRC). Short tool lengths make these ideal for HSC finishing operations too.  
Débit copeaux élevé grâce aux 4 goujures (opérations d'ébauche générale jusqu'à 58 HRC). Ces outils courts sont aussi idéaux pour la finition à grande vitesse.



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |     | D   | 0/-0.02 |         |          |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|-----|-----|---------|---------|----------|--|--|
| IN2006          | + | ○ | + |                  | ○                | +                 | ▼▼▼ | C/R | ± 0.01  | λ = 30° | ≤ 58 HRC |  |  |
|                 |   |   |   |                  |                  |                   |     | d   | h6      |         |          |  |  |

+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

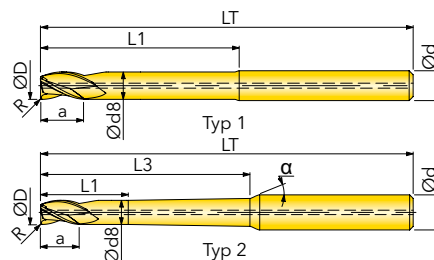
| Designation<br>Réf. de l'article | D  | d  | d8  | LT  | L1 | α  | a  | R | Typ | Z |
|----------------------------------|----|----|-----|-----|----|----|----|---|-----|---|
| INRAP040.200.012Z4               | 4  | 6  | 3,7 | 60  | 12 | 10 | 5  | 2 | 1   | 4 |
| INRAP040.200.020Z4               | 4  | 6  | 3,7 | 60  | 20 | 10 | 5  | 2 | 1   | 4 |
| INRAP060.300.020Z4               | 6  | 6  | 5,6 | 60  | 20 | 10 | 10 | 3 | 2   | 4 |
| INRAP060.300.030Z4               | 6  | 6  | 5,6 | 80  | 30 | 10 | 10 | 3 | 2   | 4 |
| INRAP080.400.026Z4               | 8  | 8  | 7,4 | 75  | 26 | 10 | 12 | 4 | 2   | 4 |
| INRAP080.400.040Z4               | 8  | 8  | 7,4 | 100 | 40 | 10 | 12 | 4 | 2   | 4 |
| INRAP100.500.028Z4               | 10 | 10 | 9,2 | 75  | 28 | 10 | 16 | 5 | 2   | 4 |
| INRAP100.500.040Z4               | 10 | 10 | 9,2 | 100 | 40 | 10 | 16 | 5 | 2   | 4 |
| INRAP120.600.030Z4               | 12 | 12 | 11  | 100 | 30 | 10 | 16 | 6 | 2   | 4 |

# **INCOOLANT** HIGH-SPEED END MILL, Z=3 FRAISE TORIQUE UGV AVEC ARROSAGE INTÉGRÉ, Z=3 - SUPER ALLIAGES

ADAPTION ACC. TO DIN 6535 HA  
ATTACHEMENT DIN 6535 HA



High stock removal rate on soft and tough materials such as titanium and nickel alloys. Solid carbide end mill with through-the-tool coolant.  
Débit copeaux élevé dans les matériaux collants et tenaces, par ex. les alliages de nickel et de titane. Fraise en bout carbure monobloc avec arrosage intégré.



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |  | D | 0/-0.02 |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|--|---|---------|--|--|--|--|--|--|--|
| IN2005          | + | ○ | ○ |                  | ○                | +                 |  | d | h6      |  |  |  |  |  |  |  |

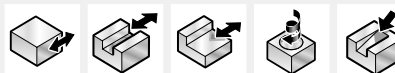
+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | d8   | LT  | L1 | L3 | α   | a | R    | Typ | Z |   |
|----------------------------------|----|----|------|-----|----|----|-----|---|------|-----|---|---|
| INCO0040.028.010Z3               | 4  | 6  | 3,6  | 60  | 10 | -  | -   | 4 | 0,28 | 1   | 3 | ✓ |
| INCO0040.028.020Z3               | 4  | 6  | 3,6  | 60  | 20 | -  | -   | 4 | 0,28 | 1   | 3 | ✓ |
| INCO0040.028.040Z3K17            | 4  | 6  | 3,6  | 80  | 12 | 40 | 1,7 | 4 | 0,28 | 2   | 3 | ✓ |
| INCO0040.028.012Z3K14            | 4  | 6  | 3,6  | 100 | 12 | 64 | 1,4 | 4 | 0,28 | 2   | 3 | ✓ |
| INCO0050.035.025Z3               | 5  | 6  | 4,5  | 60  | 25 | -  | -   | 6 | 0,35 | 1   | 3 | ✓ |
| INCO0050.035.040Z3               | 5  | 6  | 4,5  | 75  | 40 | -  | -   | 6 | 0,35 | 1   | 3 | ✓ |
| INCO0060.042.025Z3               | 6  | 6  | 5,5  | 60  | 25 | -  | -   | 6 | 0,42 | 1   | 3 | ✓ |
| INCO0060.042.040Z3               | 6  | 6  | 5,5  | 75  | 40 | -  | -   | 6 | 0,42 | 1   | 3 | ✓ |
| INCO0060.042.060Z3               | 6  | 6  | 5,5  | 100 | 60 | -  | -   | 6 | 0,42 | 1   | 3 | ✓ |
| INCO0060.042.020Z3K24            | 6  | 8  | 5,6  | 85  | 20 | 40 | 2,4 | 6 | 0,42 | 2   | 3 | ✓ |
| INCO0060.042.020Z3K16            | 6  | 8  | 5,5  | 100 | 20 | 65 | 1,6 | 6 | 0,42 | 2   | 3 | ✓ |
| INCO0060.042.015Z3K24            | 6  | 10 | 5,8  | 120 | 15 | 65 | 1,5 | 6 | 0,42 | 2   | 3 | ✓ |
| INCO0080.056.030Z3               | 8  | 8  | 7,5  | 65  | 30 | -  | -   | 8 | 0,56 | 1   | 3 | ✓ |
| INCO0080.056.060Z3               | 8  | 8  | 7,5  | 100 | 60 | -  | -   | 8 | 0,56 | 1   | 3 | ✓ |
| INCO0080.056.020Z3K20            | 8  | 10 | 7,6  | 100 | 20 | 45 | 2,0 | 8 | 0,56 | 2   | 3 | ✓ |
| INCO0080.056.020Z3K16            | 8  | 10 | 7,6  | 120 | 20 | 65 | 1,6 | 8 | 0,56 | 2   | 3 | ✓ |
| INCO0100.070.040Z3               | 10 | 10 | 9,6  | 75  | 40 | -  | -   | 8 | 0,7  | 1   | 3 | ✓ |
| INCO0120.080.050Z3               | 12 | 12 | 11,6 | 125 | 50 | -  | -   | 8 | 0,8  | 1   | 3 | ✓ |

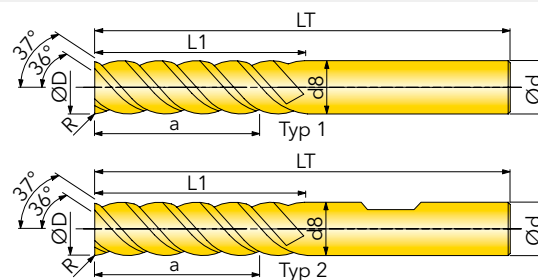
R (Programming radius) / R (Rayon programmé)

# **INNOVATIVE** HPC END MILL, Z=4 FRAISE EN BOUT À GÉOMÉTRIE HPC, Z=4

ADAPTION ACC. TO DIN 6535 HA / 6535 HB  
 ATTACHEMENT DIN 6535 HA / 6535 HB



Ideal for roughing and finishing in a wide variety of materials. Variable pitch and variable helix angle.  
 Fraise idéale pour l'ébauche et la finition de toutes sortes de matériaux. Pas et angle d'hélice variables.

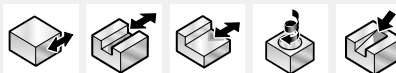


| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |     | D<br>C/R<br>d | h10<br>± 0.05<br>h6 |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|-----|---------------|---------------------|--|--|--|--|--|--|--|
| IN2005          | + | ○ | + |                  | ○                | ○                 | ▼▼▼ |               |                     |  |  |  |  |  |  |  |

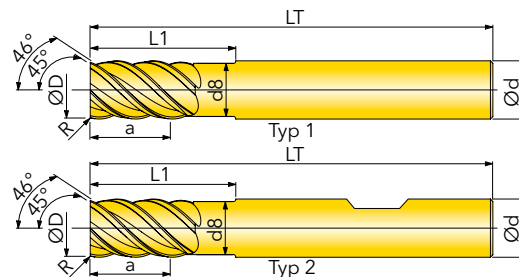
+ Preferred choice / Premier choix   
 ○ Second choice / Second choix   
 ▼ Roughing / Ebauche   
 ▼▼ Pre-finishing / Semi-finition   
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | d8   | LT  | L1 | a  | R   | Typ | Z |
|----------------------------------|----|----|------|-----|----|----|-----|-----|---|
| INNOV060.010.019Z4C              | 6  | 6  | 5,6  | 55  | 19 | 13 | 0,1 | 1   | 4 |
| INNOV060.010.025Z4C              | 6  | 6  | 5,6  | 61  | 25 | 10 | 0,1 | 1   | 4 |
| INNOV060.010.019Z4W              | 6  | 6  | 5,6  | 55  | 19 | 13 | 0,1 | 2   | 4 |
| INNOV060.010.025Z4W              | 6  | 6  | 5,6  | 61  | 25 | 10 | 0,1 | 2   | 4 |
| INNOV080.010.025Z4C              | 8  | 8  | 7,5  | 61  | 25 | 17 | 0,1 | 1   | 4 |
| INNOV080.010.033Z4C              | 8  | 8  | 7,5  | 69  | 33 | 13 | 0,1 | 1   | 4 |
| INNOV080.010.025Z4W              | 8  | 8  | 7,5  | 61  | 25 | 17 | 0,1 | 2   | 4 |
| INNOV080.010.033Z4W              | 8  | 8  | 7,5  | 69  | 33 | 13 | 0,1 | 2   | 4 |
| INNOV100.010.032Z4C              | 10 | 10 | 9,5  | 72  | 32 | 22 | 0,1 | 1   | 4 |
| INNOV100.010.032Z4W              | 10 | 10 | 9,5  | 72  | 32 | 22 | 0,1 | 2   | 4 |
| INNOV100.010.042Z4W              | 10 | 10 | 9,5  | 82  | 42 | 17 | 0,1 | 2   | 4 |
| INNOV120.020.038Z4C              | 12 | 12 | 11,5 | 83  | 38 | 26 | 0,2 | 1   | 4 |
| INNOV120.020.050Z4C              | 12 | 12 | 11,5 | 95  | 50 | 20 | 0,2 | 1   | 4 |
| INNOV120.020.038Z4W              | 12 | 12 | 11,5 | 83  | 38 | 26 | 0,2 | 2   | 4 |
| INNOV120.020.050Z4W              | 12 | 12 | 11,5 | 95  | 50 | 20 | 0,2 | 2   | 4 |
| INNOV160.020.050Z4W              | 16 | 16 | 15,5 | 98  | 50 | 34 | 0,2 | 2   | 4 |
| INNOV160.020.066Z4W              | 16 | 16 | 15,5 | 114 | 66 | 26 | 0,2 | 2   | 4 |
| INNOV200.020.062Z4C              | 20 | 20 | 19,5 | 112 | 62 | 42 | 0,2 | 1   | 4 |
| INNOV200.020.082Z4C              | 20 | 20 | 19,5 | 132 | 82 | 32 | 0,2 | 1   | 4 |
| INNOV200.020.062Z4W              | 20 | 20 | 19,5 | 112 | 62 | 42 | 0,2 | 2   | 4 |
| INNOV200.020.082Z4W              | 20 | 20 | 19,5 | 132 | 82 | 32 | 0,2 | 2   | 4 |

ADAPTION ACC. TO DIN 6535 HA / 6535 HB  
ATTACHEMENT DIN 6535 HA / 6535 HB



Ideal for roughing and finishing in a wide variety of materials. Variable pitch and variable helix angle.  
Fraise idéale pour l'ébauche et la finition de toutes sortes de matériaux. Pas et angle d'hélice variables.



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |     | D<br>C/R<br>d | h10<br>± 0.05<br>h6 |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|-----|---------------|---------------------|--|--|--|--|--|--|--|
| IN2005          | + | O | + |                  | O                | O                 | ▼▼▼ |               |                     |  |  |  |  |  |  |  |

+ Preferred choice / Premier choix    O Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | d8   | LT  | L1 | a  | R   | Typ | Z |
|----------------------------------|----|----|------|-----|----|----|-----|-----|---|
| INNOV060.010.019Z5C              | 6  | 6  | 5,6  | 55  | 19 | 13 | 0,1 | 1   | 5 |
| INNOV060.010.025Z5C              | 6  | 6  | 5,6  | 61  | 25 | 10 | 0,1 | 1   | 5 |
| INNOV080.010.025Z5C              | 8  | 8  | 7,5  | 61  | 25 | 17 | 0,1 | 1   | 5 |
| INNOV080.010.025Z5W              | 8  | 8  | 7,5  | 61  | 25 | 17 | 0,1 | 2   | 5 |
| INNOV100.010.032Z5C              | 10 | 10 | 9,5  | 72  | 32 | 22 | 0,1 | 1   | 5 |
| INNOV100.010.042Z5C              | 10 | 10 | 9,5  | 82  | 42 | 17 | 0,1 | 1   | 5 |
| INNOV100.010.032Z5W              | 10 | 10 | 9,5  | 72  | 32 | 22 | 0,1 | 2   | 5 |
| INNOV120.020.038Z5C              | 12 | 12 | 11,5 | 83  | 38 | 26 | 0,2 | 1   | 5 |
| INNOV120.020.038Z5W              | 12 | 12 | 11,5 | 83  | 38 | 26 | 0,2 | 2   | 5 |
| INNOV120.020.050Z5W              | 12 | 12 | 11,5 | 95  | 50 | 20 | 0,2 | 2   | 5 |
| INNOV160.020.050Z5C              | 16 | 16 | 15,5 | 98  | 50 | 34 | 0,2 | 1   | 5 |
| INNOV160.020.050Z5W              | 16 | 16 | 15,5 | 98  | 50 | 34 | 0,2 | 2   | 5 |
| INNOV160.020.066Z5W              | 16 | 16 | 15,5 | 114 | 66 | 26 | 0,2 | 2   | 5 |
| INNOV200.020.062Z5C              | 20 | 20 | 19,5 | 112 | 62 | 42 | 0,2 | 1   | 5 |
| INNOV200.020.082Z5C              | 20 | 20 | 19,5 | 132 | 82 | 32 | 0,2 | 1   | 5 |
| INNOV200.020.082Z5W              | 20 | 20 | 19,5 | 132 | 82 | 32 | 0,2 | 2   | 5 |
| INNOV250.040.070Z5C              | 25 | 25 | 24,5 | 121 | 70 | 50 | 0,4 | 1   | 5 |
| INNOV250.040.095Z5C              | 25 | 25 | 24,5 | 150 | 95 | 40 | 0,4 | 1   | 5 |

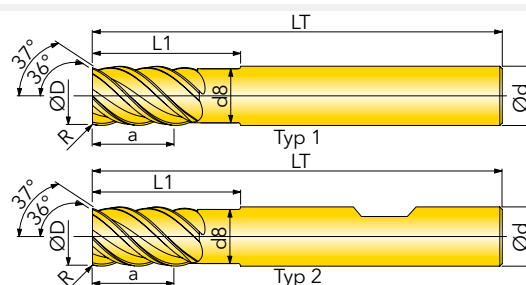
NOTES

# **INNOTITAN** HPC TITANIUM END MILL Z=4 FRAISE HPC POUR L'USINAGE DU TITANE Z=4

ADAPTION ACC. TO DIN 6535 HA / 6535 HB  
 ATTACHEMENT DIN 6535 HA / 6535 HB



Special developed HPC-geometry for rough and finish milling of stainless steel and titanium. Irregular division / unequal helix angle  
 Géométrie HPC développée spécialement pour l'ébauche et la finition des matériaux Inoxydables et du Titane. Hélice et Pas décalés



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2005          | ○ | + | ○ |                  | +                |                   |



D C/R  
 d h10  
 ± 0.02  
 h6



+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | d8   | LT  | L1 | a  | R   | Typ | Z | kg    |
|----------------------------------|----|----|------|-----|----|----|-----|-----|---|-------|
| INNOT050.020.020Z4C              | 5  | 6  | 4,9  | 57  | 20 | 13 | 0,2 | 1   | 4 | 0,020 |
| INNOT050.050.020Z4C              | 5  | 6  | 4,9  | 57  | 20 | 13 | 0,5 | 1   | 4 | 0,020 |
| INNOT060.020.025Z4C              | 6  | 6  | 5,9  | 57  | 25 | 14 | 0,2 | 1   | 4 | 0,021 |
| INNOT060.050.025Z4C              | 6  | 6  | 5,9  | 57  | 25 | 14 | 0,5 | 1   | 4 | 0,021 |
| INNOT060.100.025Z4C              | 6  | 6  | 5,9  | 57  | 25 | 14 | 1   | 1   | 4 | 0,021 |
| INNOT060.200.025Z4C              | 6  | 6  | 5,9  | 57  | 25 | 14 | 2   | 1   | 4 | 0,021 |
| INNOT080.030.032Z4W              | 8  | 8  | 7,8  | 68  | 32 | 18 | 0,3 | 2   | 4 | 0,040 |
| INNOT080.080.032Z4C              | 8  | 8  | 7,8  | 68  | 32 | 18 | 0,8 | 1   | 4 | 0,040 |
| INNOT080.100.032Z4C              | 8  | 8  | 7,8  | 68  | 32 | 18 | 1   | 1   | 4 | 0,040 |
| INNOT080.200.032Z4C              | 8  | 8  | 7,8  | 68  | 32 | 18 | 2   | 1   | 4 | 0,040 |
| INNOT080.300.032Z4C              | 8  | 8  | 7,8  | 68  | 32 | 18 | 3   | 1   | 4 | 0,040 |
| INNOT100.080.032Z4C              | 10 | 10 | 9,8  | 72  | 32 | 22 | 0,8 | 1   | 4 | 0,070 |
| INNOT100.100.032Z4C              | 10 | 10 | 9,8  | 72  | 32 | 22 | 1   | 1   | 4 | 0,070 |
| INNOT100.200.032Z4C              | 10 | 10 | 9,8  | 72  | 32 | 22 | 2   | 1   | 4 | 0,070 |
| INNOT100.300.032Z4C              | 10 | 10 | 9,8  | 72  | 32 | 22 | 3   | 1   | 4 | 0,070 |
| INNOT120.080.038Z4C              | 12 | 12 | 11,7 | 83  | 38 | 26 | 0,8 | 1   | 4 | 0,110 |
| INNOT120.100.038Z4C              | 12 | 12 | 11,7 | 83  | 38 | 26 | 1   | 1   | 4 | 0,110 |
| INNOT120.200.038Z4C              | 12 | 12 | 11,7 | 83  | 38 | 26 | 2   | 1   | 4 | 0,110 |
| INNOT120.300.038Z4C              | 12 | 12 | 11,7 | 83  | 38 | 26 | 3   | 1   | 4 | 0,110 |
| INNOT120.400.038Z4C              | 12 | 12 | 11,7 | 83  | 38 | 26 | 4   | 1   | 4 | 0,110 |
| INNOT120.400.038Z4W              | 12 | 12 | 11,7 | 83  | 38 | 26 | 4   | 2   | 4 | 0,110 |
| INNOT140.080.038Z4C              | 14 | 14 | 13,7 | 83  | 38 | 30 | 0,8 | 1   | 4 | 0,200 |
| INNOT140.300.038Z4C              | 14 | 14 | 13,7 | 83  | 38 | 30 | 3   | 1   | 4 | 0,200 |
| INNOT160.100.050Z4W              | 16 | 16 | 15,7 | 100 | 50 | 34 | 1   | 2   | 4 | 0,300 |
| INNOT160.200.050Z4C              | 16 | 16 | 15,7 | 100 | 50 | 34 | 2   | 1   | 4 | 0,300 |
| INNOT160.300.050Z4C              | 16 | 16 | 15,7 | 100 | 50 | 34 | 3   | 1   | 4 | 0,300 |
| INNOT160.400.050Z4W              | 16 | 16 | 15,7 | 100 | 50 | 34 | 4   | 2   | 4 | 0,300 |
| INNOT160.500.050Z4C              | 16 | 16 | 15,7 | 100 | 50 | 34 | 5   | 1   | 4 | 0,300 |
| INNOT200.100.062Z4W              | 20 | 20 | 19,7 | 112 | 62 | 42 | 1   | 2   | 4 | 0,450 |
| INNOT200.200.062Z4C              | 20 | 20 | 19,7 | 112 | 62 | 42 | 2   | 1   | 4 | 0,450 |
| INNOT200.200.062Z4W              | 20 | 20 | 19,7 | 112 | 62 | 42 | 2   | 2   | 4 | 0,450 |
| INNOT200.250.062Z4C              | 20 | 20 | 19,7 | 112 | 62 | 42 | 2,5 | 1   | 4 | 0,450 |
| INNOT200.300.062Z4C              | 20 | 20 | 19,7 | 112 | 62 | 42 | 3   | 1   | 4 | 0,450 |
| INNOT200.400.062Z4C              | 20 | 20 | 19,7 | 112 | 62 | 42 | 4   | 1   | 4 | 0,450 |
| INNOT200.400.062Z4W              | 20 | 20 | 19,7 | 112 | 62 | 42 | 4   | 2   | 4 | 0,450 |
| INNOT250.300.069Z4C              | 25 | 25 | 24,7 | 125 | 69 | 50 | 3   | 1   | 4 | 0,775 |

| Designation<br>Réf. de l'article                                                                                                                                          | D  | d  | d8   | LT  | L1 | a  | R | Typ | Z |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|------|-----|----|----|---|-----|---|-------------------------------------------------------------------------------------|
| INNOT250.400.069Z4C                                                                                                                                                       | 25 | 25 | 24,7 | 125 | 69 | 50 | 4 | 1   | 4 | 0,775                                                                               |
| Shaft version in DIN6535HA/HB, different corner radii and tool lengths on request! /<br>Queue disponible en version DIN6535HA/HB, autres rayons et longueurs sur demande. |    |    |      |     |    |    |   |     |   |                                                                                     |

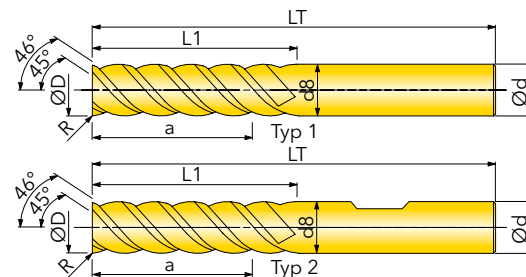


# **INNOTITAN** HPC TITANIUM END MILL Z=5 FRAISE HPC POUR L'USINAGE DU TITANE Z=5

ADAPTION ACC. TO DIN 6535 HA / 6535 HB  
 ATTACHEMENT DIN 6535 HA / 6535 HB



Special developed HPC-geometry for rough and finish milling of stainless steel and titanium. Irregular division / unequal helix angle.  
 Géométrie HPC développée spécialement pour l'ébauche et la finition des matériaux Inoxydables et du Titane. Hélice et Pas décalés.



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |     | D<br>C/R<br>d | h10<br>± 0.02<br>h6 |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|-----|---------------|---------------------|--|--|--|--|--|--|
| IN2005          | ○ | + | ○ |                  | +                |                   | ▼▼▼ |               |                     |  |  |  |  |  |  |

+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

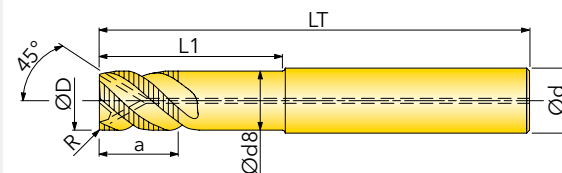
| Designation<br>Réf. de l'article | D  | d  | d8   | LT  | L1 | a  | R   | Typ | Z | kg    |
|----------------------------------|----|----|------|-----|----|----|-----|-----|---|-------|
| INNOT060.010.019Z5C              | 6  | 6  | 5,6  | 55  | 19 | 13 | 0,1 | 1   | 5 | 0,019 |
| INNOT080.010.025Z5C              | 8  | 8  | 7,5  | 61  | 25 | 17 | 0,1 | 1   | 5 | 0,030 |
| INNOT100.010.033Z5C              | 10 | 10 | 9,5  | 72  | 33 | 22 | 0,1 | 1   | 5 | 0,070 |
| INNOT120.020.038Z5C              | 12 | 12 | 11,5 | 83  | 38 | 26 | 0,2 | 1   | 5 | 0,110 |
| INNOT160.020.050Z5C              | 16 | 16 | 15,5 | 98  | 50 | 34 | 0,2 | 1   | 5 | 0,300 |
| INNOT160.020.050Z5W              | 16 | 16 | 15,5 | 98  | 50 | 34 | 0,2 | 2   | 5 | 0,300 |
| INNOT200.020.062Z5C              | 20 | 20 | 19,5 | 112 | 62 | 42 | 0,2 | 1   | 5 | 0,450 |
| INNOT200.020.062Z5W              | 20 | 20 | 19,5 | 112 | 62 | 42 | 0,2 | 2   | 5 | 0,450 |

Shaft version in DIN6535HA/HB, different corner radii and tool lengths on request! /  
 Queue disponible en version DIN6535HA/HB, autres rayons et longueurs sur demande.

NOTES

**PRIMO LINE** 3 FLUTE END MILL FOR ROUGHING ALU POLISHED  
FRAISE ALU RAVAGEUSE, Z=3 - GOIJURES POLIES

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



Grade / Nuance  
IN05S

P M K N<sub>(S)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+

D d h10 h6

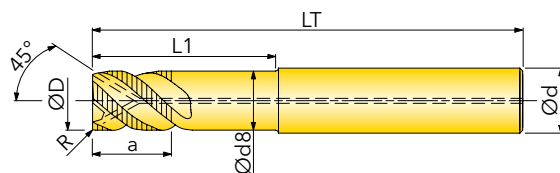


+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d  | d8   | LT  | L1 | a  | R   | Z | IK | kg    |
|----------------------------------|----|----|------|-----|----|----|-----|---|----|-------|
| P3N2RM060A009L030R004W           | 6  | 6  | 5,7  | 56  | 30 | 9  | 0,4 | 3 | ✓  | 0,020 |
| P3N2RM080A012L040R004W           | 8  | 8  | 7,6  | 76  | 40 | 12 | 0,4 | 3 | ✓  | 0,055 |
| P3N2RM100A015L050R004W           | 10 | 10 | 9,5  | 91  | 50 | 15 | 0,4 | 3 | ✓  | 0,092 |
| P3N2RM120A026L048R004W           | 12 | 12 | 11,3 | 94  | 48 | 26 | 0,4 | 3 | ✓  | 0,125 |
| P3N2RM120A018L060R004W           | 12 | 12 | 11,3 | 106 | 60 | 18 | 0,4 | 3 | ✓  | 0,150 |
| P3N2RM120A018L072R004W           | 12 | 12 | 11,3 | 118 | 72 | 18 | 0,4 | 3 | ✓  | 0,166 |
| P3N2RM120A026L048R016W           | 12 | 12 | 11,3 | 94  | 48 | 26 | 1,6 | 3 | ✓  | 0,126 |
| P3N2RM120A018L060R016W           | 12 | 12 | 11,3 | 106 | 60 | 18 | 1,6 | 3 | ✓  | 0,149 |
| P3N2RM120A026L048R020W           | 12 | 12 | 11,3 | 94  | 48 | 26 | 2   | 3 | ✓  | 0,127 |
| P3N2RM120A018L060R020W           | 12 | 12 | 11,3 | 106 | 60 | 18 | 2   | 3 | ✓  | 0,152 |
| P3N2RM120A026L048R025W           | 12 | 12 | 11,3 | 94  | 48 | 26 | 2,5 | 3 | ✓  | 0,127 |
| P3N2RM120A018L060R025W           | 12 | 12 | 11,3 | 106 | 60 | 18 | 2,5 | 3 | ✓  | 0,150 |
| P3N2RM120A026L048R032W           | 12 | 12 | 11,3 | 94  | 48 | 26 | 3,2 | 3 | ✓  | 0,127 |
| P3N2RM120A018L060R032W           | 12 | 12 | 11,3 | 106 | 60 | 18 | 3,2 | 3 | ✓  | 0,149 |
| P3N2RM120A018L072R032W           | 12 | 12 | 11,3 | 118 | 72 | 18 | 3,2 | 3 | ✓  | 0,168 |
| P3N2RM140A031L056R008W           | 14 | 14 | 13,2 | 102 | 56 | 31 | 0,8 | 3 | ✓  | 0,187 |
| P3N2RM140A021L070R008W           | 14 | 14 | 13,2 | 116 | 70 | 21 | 0,8 | 3 | ✓  | 0,225 |
| P3N2RM140A031L056R020W           | 14 | 14 | 13,2 | 102 | 56 | 31 | 2   | 3 | ✓  | 0,188 |
| P3N2RM140A021L070R020W           | 14 | 14 | 13,2 | 116 | 70 | 21 | 2   | 3 | ✓  | 0,225 |
| P3N2RM140A031L056R030W           | 14 | 14 | 13,2 | 102 | 56 | 31 | 3   | 3 | ✓  | 0,188 |
| P3N2RM140A021L070R030W           | 14 | 14 | 13,2 | 116 | 70 | 21 | 3   | 3 | ✓  | 0,226 |
| P3N2RM160A024L035R008W           | 16 | 16 | 15,2 | 81  | 35 | 24 | 0,8 | 3 | ✓  | 0,194 |
| P3N2RM160A035L048R008W           | 16 | 16 | 15,2 | 96  | 48 | 35 | 0,8 | 3 | ✓  | 0,221 |
| P3N2RM160A035L064R008W           | 16 | 16 | 15,2 | 113 | 64 | 35 | 0,8 | 3 | ✓  | 0,267 |
| P3N2RM160A024L080R008W           | 16 | 16 | 15,2 | 129 | 80 | 24 | 0,8 | 3 | ✓  | 0,330 |
| P3N2RM160A024L096R008W           | 16 | 16 | 15,2 | 145 | 96 | 24 | 0,8 | 3 | ✓  | 0,370 |
| P3N2RM160A035L064R016W           | 16 | 16 | 15,2 | 113 | 64 | 35 | 1,6 | 3 | ✓  | 0,267 |
| P3N2RM160A024L080R016W           | 16 | 16 | 15,2 | 129 | 80 | 24 | 1,6 | 3 | ✓  | 0,329 |
| P3N2RM160A035L064R020W           | 16 | 16 | 15,2 | 113 | 64 | 35 | 2   | 3 | ✓  | 0,267 |
| P3N2RM160A024L080R020W           | 16 | 16 | 15,2 | 129 | 80 | 24 | 2   | 3 | ✓  | 0,331 |
| P3N2RM160A035L064R025W           | 16 | 16 | 15,2 | 113 | 64 | 35 | 2,5 | 3 | ✓  | 0,268 |
| P3N2RM160A024L080R025W           | 16 | 16 | 15,2 | 129 | 80 | 24 | 2,5 | 3 | ✓  | 0,328 |
| P3N2RM160A024L035R032W           | 16 | 16 | 15,2 | 81  | 35 | 24 | 3,2 | 3 | ✓  | 0,195 |
| P3N2RM160A035L048R032W           | 16 | 16 | 15,2 | 96  | 48 | 35 | 3,2 | 3 | ✓  | 0,222 |
| P3N2RM160A035L064R032W           | 16 | 16 | 15,2 | 113 | 64 | 35 | 3,2 | 3 | ✓  | 0,265 |
| P3N2RM160A024L080R032W           | 16 | 16 | 15,2 | 129 | 80 | 24 | 3,2 | 3 | ✓  | 0,328 |
| P3N2RM160A024L096R032W           | 16 | 16 | 15,2 | 145 | 96 | 24 | 3,2 | 3 | ✓  | 0,367 |
| P3N2RM160A035L064R040W           | 16 | 16 | 15,2 | 113 | 64 | 35 | 4   | 3 | ✓  | 0,265 |

**PRIMO LINE** 3 FLUTE END MILL FOR ROUGHING ALU POLISHED  
FRAISE ALU RAVAGEUSE, Z=3 - GOUJURES POLIES

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



Grade / Nuance

IN05S

P

M

K

N<sub>(K)</sub>

S<sub>(M)</sub>

H<sub>(PK)</sub>

+

D

d

h10

h6

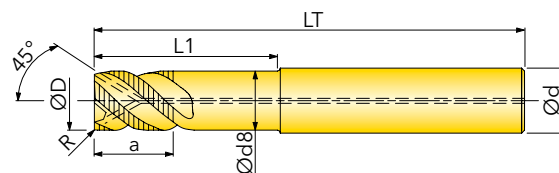


+ Preferred choice / Premier choix    O Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d  | d8   | LT  | L1  | a  | R   | Z | IK | kg    |
|----------------------------------|----|----|------|-----|-----|----|-----|---|----|-------|
| P3N2RM160A024L080R040W           | 16 | 16 | 15,2 | 129 | 80  | 24 | 4   | 3 | ✓  | 0,330 |
| P3N2RM160A035L064R050W           | 16 | 16 | 15,2 | 113 | 64  | 35 | 5   | 3 | ✓  | 0,263 |
| P3N2RM160A024L080R050W           | 16 | 16 | 15,2 | 129 | 80  | 24 | 5   | 3 | ✓  | 0,328 |
| P3N2RM200A030L044R008W           | 20 | 20 | 19   | 94  | 44  | 30 | 0,8 | 3 | ✓  | 0,35  |
| P3N2RM200A044L060R008W           | 20 | 20 | 19   | 108 | 60  | 44 | 0,8 | 3 | ✓  | 0,377 |
| P3N2RM200A044L080R008W           | 20 | 20 | 19   | 131 | 80  | 44 | 0,8 | 3 | ✓  | 0,472 |
| P3N2RM200A030L100R008W           | 20 | 20 | 19   | 151 | 100 | 30 | 0,8 | 3 | ✓  | 0,580 |
| P3N2RM200A030L120R008W           | 20 | 20 | 19   | 172 | 120 | 30 | 0,8 | 3 | ✓  | 0,695 |
| P3N2RM200A044L080R016W           | 20 | 20 | 19   | 131 | 80  | 44 | 1,6 | 3 | ✓  | 0,477 |
| P3N2RM200A030L100R016W           | 20 | 20 | 19   | 151 | 100 | 30 | 1,6 | 3 | ✓  | 0,578 |
| P3N2RM200A044L080R020W           | 20 | 20 | 19   | 131 | 80  | 44 | 2   | 3 | ✓  | 0,478 |
| P3N2RM200A030L100R020W           | 20 | 20 | 19   | 151 | 100 | 30 | 2   | 3 | ✓  | 0,478 |
| P3N2RM200A030L044R032W           | 20 | 20 | 19   | 94  | 44  | 30 | 3,2 | 3 | ✓  | 0,348 |
| P3N2RM200A044L060R032W           | 20 | 20 | 19   | 108 | 60  | 44 | 3,2 | 3 | ✓  | 0,348 |
| P3N2RM200A044L080R032W           | 20 | 20 | 19   | 131 | 80  | 44 | 3,2 | 3 | ✓  | 0,047 |
| P3N2RM200A030L100R032W           | 20 | 20 | 19   | 151 | 100 | 30 | 3,2 | 3 | ✓  | 0,579 |
| P3N2RM200A030L120R032W           | 20 | 20 | 19   | 172 | 120 | 30 | 3,2 | 3 | ✓  | 0,690 |
| P3N2RM200A044L080R040W           | 20 | 20 | 19   | 131 | 80  | 44 | 4   | 3 | ✓  | 0,475 |
| P3N2RM200A030L100R040W           | 20 | 20 | 19   | 151 | 100 | 30 | 4   | 3 | ✓  | 0,577 |
| P3N2RM200A044L080R050W           | 20 | 20 | 19   | 131 | 80  | 44 | 5   | 3 | ✓  | 0,472 |
| P3N2RM200A030L100R050W           | 20 | 20 | 19   | 151 | 100 | 30 | 5   | 3 | ✓  | 0,577 |
| P3N2RM200A044L080R060W           | 20 | 20 | 19   | 131 | 80  | 44 | 6   | 3 | ✓  | 0,470 |
| P3N2RM200A030L100R060W           | 20 | 20 | 19   | 151 | 100 | 30 | 6   | 3 | ✓  | 0,578 |
| P3N2RM250A038L054R008W           | 25 | 25 | 23,5 | 108 | 54  | 38 | 0,8 | 3 | ✓  | 0,638 |
| P3N2RM250A055L075R008W           | 25 | 25 | 23,5 | 131 | 75  | 55 | 0,8 | 3 | ✓  | 0,720 |
| P3N2RM250A055L100R008W           | 25 | 25 | 23,5 | 157 | 100 | 55 | 0,8 | 3 | ✓  | 0,882 |
| P3N2RM250A038L125R008W           | 25 | 25 | 23,5 | 185 | 125 | 38 | 0,8 | 3 | ✓  | 1,115 |
| P3N2RM250A038L150R008W           | 25 | 25 | 23,5 | 210 | 150 | 38 | 0,8 | 3 | ✓  | 1,266 |
| P3N2RM250A055L100R016W           | 25 | 25 | 23,5 | 157 | 100 | 55 | 1,6 | 3 | ✓  | 0,880 |
| P3N2RM250A055L100R020W           | 25 | 25 | 23,5 | 157 | 100 | 55 | 2   | 3 | ✓  | 0,879 |
| P3N2RM250A038L125R020W           | 25 | 25 | 23,5 | 185 | 125 | 38 | 2   | 3 | ✓  | 1,112 |
| P3N2RM250A038L054R032W           | 25 | 25 | 23,5 | 108 | 54  | 38 | 3,2 | 3 | ✓  | 0,635 |
| P3N2RM250A055L075R032W           | 25 | 25 | 23,5 | 131 | 75  | 55 | 3,2 | 3 | ✓  | 0,713 |
| P3N2RM250A055L100R032W           | 25 | 25 | 23,5 | 157 | 100 | 55 | 3,2 | 3 | ✓  | 0,880 |
| P3N2RM250A038L125R032W           | 25 | 25 | 23,5 | 185 | 125 | 38 | 3,2 | 3 | ✓  | 1,062 |
| P3N2RM250A038L150R032W           | 25 | 25 | 23,5 | 210 | 150 | 38 | 3,2 | 3 | ✓  | 1,271 |
| P3N2RM250A055L100R040W           | 25 | 25 | 23,5 | 157 | 100 | 55 | 4   | 3 | ✓  | 0,885 |
| P3N2RM250A055L100R050W           | 25 | 25 | 23,5 | 157 | 100 | 55 | 5   | 3 | ✓  | 0,876 |

**PRIMO LINE** 3 FLUTE END MILL FOR ROUGHING ALU POLISHED  
FRAISE ALU RAVAGEUSE, Z=3 - GOIJURES POLIES

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



Grade / Nuance  
IN05S

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+

D  
d h10  
h6

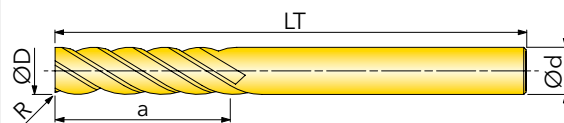


+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d  | d8   | LT  | L1  | a  | R   | Z | IK | kg    |
|----------------------------------|----|----|------|-----|-----|----|-----|---|----|-------|
| P3N2RM250A055L100R060W           | 25 | 25 | 23,5 | 157 | 100 | 55 | 6   | 3 | ✓  | 0,730 |
| P3N2RM250A055L100R064W           | 25 | 25 | 23,5 | 157 | 100 | 55 | 6,3 | 3 | ✓  | 0,876 |

**PRIMO LINE** 3 FLUTE END MILL FOR PRE-/FINISHING ALU POLISHED  
FRAISE ALU, 1/2 FINITION/FINITION, Z=3 - GOUJURES POLIES

ADAPTION ACC. TO DIN 6535 HA  
ATTACHEMENT DIN 6535 HA



Grade / Nuance

IN05S

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+

D

d

h10

h6

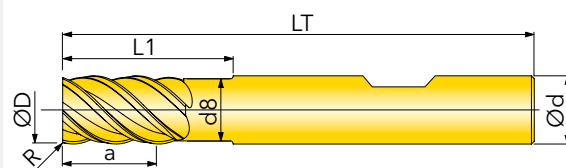
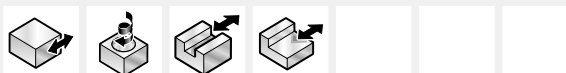


+ Preferred choice / Premier choix    O Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d  | LT  | a   | R   | Z | ✓ | kg    |
|----------------------------------|----|----|-----|-----|-----|---|---|-------|
| P3N2FM060A024R002C               | 6  | 6  | 68  | 24  | 0,2 | 3 | ✓ | 0,020 |
| P3N2FM060A030R002C               | 6  | 6  | 74  | 30  | 0,2 | 3 | ✓ | 0,055 |
| P3N2FM060A036R002C               | 6  | 6  | 80  | 36  | 0,2 | 3 | ✓ | 0,092 |
| P3N2FM080A032R002C               | 8  | 8  | 78  | 32  | 0,2 | 3 | ✓ | 0,125 |
| P3N2FM080A040R002C               | 8  | 8  | 86  | 40  | 0,2 | 3 | ✓ | 0,150 |
| P3N2FM080A048R002C               | 8  | 8  | 94  | 48  | 0,2 | 3 | ✓ | 0,166 |
| P3N2FM100A042R002C               | 10 | 10 | 95  | 42  | 0,2 | 3 | ✓ | 0,126 |
| P3N2FM100A052R002C               | 10 | 10 | 105 | 52  | 0,2 | 3 | ✓ | 0,149 |
| P3N2FM100A062R002C               | 10 | 10 | 115 | 62  | 0,2 | 3 | ✓ | 0,127 |
| P3N2FM120A050R002C               | 12 | 12 | 110 | 50  | 0,2 | 3 | ✓ | 0,152 |
| P3N2FM120A062R002C               | 12 | 12 | 122 | 62  | 0,2 | 3 | ✓ | 0,127 |
| P3N2FM120A074R002C               | 12 | 12 | 134 | 74  | 0,2 | 3 | ✓ | 0,150 |
| P3N2FM140A058R002C               | 14 | 14 | 121 | 58  | 0,2 | 3 | ✓ | 0,127 |
| P3N2FM140A072R002C               | 14 | 14 | 135 | 72  | 0,2 | 3 | ✓ | 0,149 |
| P3N2FM140A086R002C               | 14 | 14 | 149 | 86  | 0,2 | 3 | ✓ | 0,168 |
| P3N2FM160A066R002C               | 16 | 16 | 134 | 66  | 0,2 | 3 | ✓ | 0,187 |
| P3N2FM160A082R002C               | 16 | 16 | 150 | 82  | 0,2 | 3 | ✓ | 0,225 |
| P3N2FM160A098R002C               | 16 | 16 | 166 | 98  | 0,2 | 3 | ✓ | 0,188 |
| P3N2FM200A083R002C               | 20 | 20 | 158 | 83  | 0,2 | 3 | ✓ | 0,225 |
| P3N2FM200A103R002C               | 20 | 20 | 178 | 103 | 0,2 | 3 | ✓ | 0,188 |
| P3N2FM200A123R002C               | 20 | 20 | 198 | 123 | 0,2 | 3 | ✓ | 0,226 |
| P3N2FM250A103R002C               | 25 | 25 | 190 | 103 | 0,2 | 3 | ✓ | 0,267 |
| P3N2FM250A128R002C               | 25 | 25 | 215 | 128 | 0,2 | 3 | ✓ | 0,330 |
| P3N2FM250A153R002C               | 25 | 25 | 240 | 153 | 0,2 | 3 | ✓ | 0,370 |

**PRIMO LINE** 3 FLUTE END MILL FOR ROUGHING & FINISHING ALU POLISHED  
FRAISE ALU, ÉBAUCHE ET FINITION, Z=3 - GOUJURES POLIES

ADAPTION ACC. TO DIN 1835 B  
ATTACHEMENT COMPATIBLE DIN 1835 B



Grade / Nuance

IN05S

P M K N<sub>(S)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+

D d h10 h6



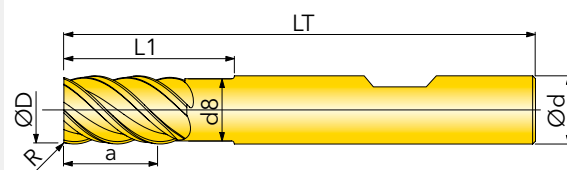
+ Preferred choice / Premier choix O Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d  | d8   | LT  | L1 | a  | R   | Z | IK | kg    |
|----------------------------------|----|----|------|-----|----|----|-----|---|----|-------|
| P3N2VM060A014L024R002W           | 6  | 6  | 5,7  | 50  | 24 | 14 | 0,2 | 3 | ✓  | 0,040 |
| P3N2VM060A014L024R004W           | 6  | 6  | 5,7  | 50  | 24 | 14 | 0,4 | 3 | ✓  | 0,040 |
| P3N2VM060A014L024R008W           | 6  | 6  | 5,7  | 50  | 24 | 14 | 0,8 | 3 | ✓  | 0,040 |
| P3N2VM060A009L030R002W           | 6  | 6  | 5,7  | 56  | 30 | 9  | 0,2 | 3 | ✓  | 0,040 |
| P3N2VM060A009L030R004W           | 6  | 6  | 5,7  | 56  | 30 | 9  | 0,4 | 3 | ✓  | 0,040 |
| P3N2VM060A009L030R008W           | 6  | 6  | 5,7  | 56  | 30 | 9  | 0,8 | 3 | ✓  | 0,040 |
| P3N2VM080A018L032R002W           | 8  | 8  | 7,6  | 68  | 32 | 18 | 0,2 | 3 | ✓  | 0,060 |
| P3N2VM080A018L032R004W           | 8  | 8  | 7,6  | 68  | 32 | 18 | 0,4 | 3 | ✓  | 0,060 |
| P3N2VM080A018L032R008W           | 8  | 8  | 7,6  | 68  | 32 | 18 | 0,8 | 3 | ✓  | 0,060 |
| P3N2VM080A012L040R002W           | 8  | 8  | 7,6  | 76  | 40 | 12 | 0,2 | 3 | ✓  | 0,060 |
| P3N2VM080A012L040R004W           | 8  | 8  | 7,6  | 76  | 40 | 12 | 0,4 | 3 | ✓  | 0,060 |
| P3N2VM080A012L040R008W           | 8  | 8  | 7,6  | 76  | 40 | 12 | 0,8 | 3 | ✓  | 0,060 |
| P3N2VM100A022L040R000W           | 10 | 10 | 9,5  | 81  | 40 | 22 | -   | 3 | ✓  | 0,090 |
| P3N2VM100A022L040R002W           | 10 | 10 | 9,5  | 81  | 40 | 22 | 0,2 | 3 | ✓  | 0,090 |
| P3N2VM100A022L040R004W           | 10 | 10 | 9,5  | 81  | 40 | 22 | 0,4 | 3 | ✓  | 0,090 |
| P3N2VM100A022L040R008W           | 10 | 10 | 9,5  | 81  | 40 | 22 | 0,8 | 3 | ✓  | 0,090 |
| P3N2VM100A022L040R016W           | 10 | 10 | 9,5  | 81  | 40 | 22 | 1,6 | 3 | ✓  | 0,090 |
| P3N2VM100A015L050R000W           | 10 | 10 | 9,5  | 91  | 50 | 15 | -   | 3 | ✓  | 0,090 |
| P3N2VM100A015L050R002W           | 10 | 10 | 9,5  | 91  | 50 | 15 | 0,2 | 3 | ✓  | 0,090 |
| P3N2VM100A015L050R004W           | 10 | 10 | 9,5  | 91  | 50 | 15 | 0,4 | 3 | ✓  | 0,090 |
| P3N2VM100A015L050R008W           | 10 | 10 | 9,5  | 91  | 50 | 15 | 0,8 | 3 | ✓  | 0,090 |
| P3N2VM100A015L050R016W           | 10 | 10 | 9,5  | 91  | 50 | 15 | 1,6 | 3 | ✓  | 0,090 |
| P3N2VM120A026L048R000W           | 12 | 12 | 11,3 | 94  | 48 | 26 | -   | 3 | ✓  | 0,150 |
| P3N2VM120A026L048R002W           | 12 | 12 | 11,3 | 94  | 48 | 26 | 0,2 | 3 | ✓  | 0,166 |
| P3N2VM120A026L048R004W           | 12 | 12 | 11,3 | 94  | 48 | 26 | 0,4 | 3 | ✓  | 0,126 |
| P3N2VM120A026L048R008W           | 12 | 12 | 11,3 | 94  | 48 | 26 | 0,8 | 3 | ✓  | 0,149 |
| P3N2VM120A026L048R016W           | 12 | 12 | 11,3 | 94  | 48 | 26 | 1,6 | 3 | ✓  | 0,127 |
| P3N2VM120A026L048R020W           | 12 | 12 | 11,3 | 94  | 48 | 26 | 2   | 3 | ✓  | 0,152 |
| P3N2VM120A026L048R025W           | 12 | 12 | 11,3 | 94  | 48 | 26 | 2,5 | 3 | ✓  | 0,127 |
| P3N2VM120A018L060R000W           | 12 | 12 | 11,3 | 106 | 60 | 18 | -   | 3 | ✓  | 0,150 |
| P3N2VM120A018L060R002W           | 12 | 12 | 11,3 | 106 | 60 | 18 | 0,2 | 3 | ✓  | 0,127 |
| P3N2VM120A018L060R004W           | 12 | 12 | 11,3 | 106 | 60 | 18 | 0,4 | 3 | ✓  | 0,149 |
| P3N2VM120A018L060R008W           | 12 | 12 | 11,3 | 106 | 60 | 18 | 0,8 | 3 | ✓  | 0,168 |
| P3N2VM120A018L060R016W           | 12 | 12 | 11,3 | 106 | 60 | 18 | 1,6 | 3 | ✓  | 0,187 |
| P3N2VM120A018L060R020W           | 12 | 12 | 11,3 | 106 | 60 | 18 | 2   | 3 | ✓  | 0,225 |
| P3N2VM120A018L060R025W           | 12 | 12 | 11,3 | 106 | 60 | 18 | 2,5 | 3 | ✓  | 0,188 |
| P3N2VM160A035L064R000W           | 16 | 16 | 15,2 | 113 | 64 | 35 | -   | 3 | ✓  | 0,225 |
| P3N2VM160A035L064R002W           | 16 | 16 | 15,2 | 113 | 64 | 35 | 0,2 | 3 | ✓  | 0,188 |



**PRIMO LINE** 3 FLUTE END MILL FOR ROUGHING & FINISHING ALU POLISHED  
FRAISE ALU, ÉBAUCHE ET FINITION, Z=3 - GOIJURES POLIES

ADAPTION ACC. TO DIN 1835 B  
ATTACHEMENT COMPATIBLE DIN 1835 B



Grade / Nuance

IN05S

P

M

K

N<sub>(K)</sub>

S<sub>(M)</sub>

H<sub>(PK)</sub>

+

D

h10

d

h6

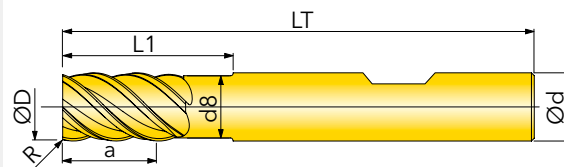


+ Preferred choice / Premier choix    O Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d  | d8   | LT  | L1  | a  | R   | Z | kg      |
|----------------------------------|----|----|------|-----|-----|----|-----|---|---------|
| P3N2VM160A035L064R004W           | 16 | 16 | 15,2 | 113 | 64  | 35 | 0,4 | 3 | ✓ 0,226 |
| P3N2VM160A035L064R008W           | 16 | 16 | 15,2 | 113 | 64  | 35 | 0,8 | 3 | ✓ 0,194 |
| P3N2VM160A035L064R016W           | 16 | 16 | 15,2 | 113 | 64  | 35 | 1,6 | 3 | ✓ 0,221 |
| P3N2VM160A035L064R020W           | 16 | 16 | 15,2 | 113 | 64  | 35 | 2   | 3 | ✓ 0,267 |
| P3N2VM160A035L064R025W           | 16 | 16 | 15,2 | 113 | 64  | 35 | 2,5 | 3 | ✓ 0,330 |
| P3N2VM160A035L064R032W           | 16 | 16 | 15,2 | 113 | 64  | 35 | 3,2 | 3 | ✓ 0,370 |
| P3N2VM160A035L064R040W           | 16 | 16 | 15,2 | 113 | 64  | 35 | 4   | 3 | ✓ 0,267 |
| P3N2VM160A035L064R050W           | 16 | 16 | 15,2 | 113 | 64  | 35 | 5   | 3 | ✓ 0,329 |
| P3N2VM160A024L080R000W           | 16 | 16 | 15,2 | 129 | 80  | 24 | -   | 3 | ✓ 0,267 |
| P3N2VM160A024L080R002W           | 16 | 16 | 15,2 | 129 | 80  | 24 | 0,2 | 3 | ✓ 0,331 |
| P3N2VM160A024L080R004W           | 16 | 16 | 15,2 | 129 | 80  | 24 | 0,4 | 3 | ✓ 0,268 |
| P3N2VM160A024L080R008W           | 16 | 16 | 15,2 | 129 | 80  | 24 | 0,8 | 3 | ✓ 0,328 |
| P3N2VM160A024L080R016W           | 16 | 16 | 15,2 | 129 | 80  | 24 | 1,6 | 3 | ✓ 0,195 |
| P3N2VM160A024L080R020W           | 16 | 16 | 15,2 | 129 | 80  | 24 | 2   | 3 | ✓ 0,222 |
| P3N2VM160A024L080R025W           | 16 | 16 | 15,2 | 129 | 80  | 24 | 2,5 | 3 | ✓ 0,265 |
| P3N2VM160A024L080R032W           | 16 | 16 | 15,2 | 129 | 80  | 24 | 3,2 | 3 | ✓ 0,328 |
| P3N2VM160A024L080R040W           | 16 | 16 | 15,2 | 129 | 80  | 24 | 4   | 3 | ✓ 0,367 |
| P3N2VM160A024L080R050W           | 16 | 16 | 15,2 | 129 | 80  | 24 | 5   | 3 | ✓ 0,265 |
| P3N2VM200A044L080R000W           | 20 | 20 | 19   | 131 | 80  | 44 | -   | 3 | ✓ 0,330 |
| P3N2VM200A044L080R002W           | 20 | 20 | 19   | 131 | 80  | 44 | 0,2 | 3 | ✓ 0,263 |
| P3N2VM200A044L080R004W           | 20 | 20 | 19   | 131 | 80  | 44 | 0,4 | 3 | ✓ 0,328 |
| P3N2VM200A044L080R008W           | 20 | 20 | 19   | 131 | 80  | 44 | 0,8 | 3 | ✓ 0,350 |
| P3N2VM200A044L080R016W           | 20 | 20 | 19   | 131 | 80  | 44 | 1,6 | 3 | ✓ 0,377 |
| P3N2VM200A044L080R020W           | 20 | 20 | 19   | 131 | 80  | 44 | 2   | 3 | ✓ 0,472 |
| P3N2VM200A044L080R032W           | 20 | 20 | 19   | 131 | 80  | 44 | 3,2 | 3 | ✓ 0,580 |
| P3N2VM200A044L080R040W           | 20 | 20 | 19   | 131 | 80  | 44 | 4   | 3 | ✓ 0,695 |
| P3N2VM200A044L080R050W           | 20 | 20 | 19   | 131 | 80  | 44 | 5   | 3 | ✓ 0,477 |
| P3N2VM200A044L080R060W           | 20 | 20 | 19   | 131 | 80  | 44 | 6   | 3 | ✓ 0,578 |
| P3N2VM200A030L100R000W           | 20 | 20 | 19   | 151 | 100 | 30 | -   | 3 | ✓ 0,478 |
| P3N2VM200A030L100R002W           | 20 | 20 | 19   | 151 | 100 | 30 | 0,2 | 3 | ✓ 0,478 |
| P3N2VM200A030L100R004W           | 20 | 20 | 19   | 151 | 100 | 30 | 0,4 | 3 | ✓ 0,348 |
| P3N2VM200A030L100R008W           | 20 | 20 | 19   | 151 | 100 | 30 | 0,8 | 3 | ✓ 0,348 |
| P3N2VM200A030L100R016W           | 20 | 20 | 19   | 151 | 100 | 30 | 1,6 | 3 | ✓ 0,475 |
| P3N2VM200A030L100R020W           | 20 | 20 | 19   | 151 | 100 | 30 | 2   | 3 | ✓ 0,579 |
| P3N2VM200A030L100R032W           | 20 | 20 | 19   | 151 | 100 | 30 | 3,2 | 3 | ✓ 0,690 |
| P3N2VM200A030L100R040W           | 20 | 20 | 19   | 151 | 100 | 30 | 4   | 3 | ✓ 0,475 |
| P3N2VM200A030L100R050W           | 20 | 20 | 19   | 151 | 100 | 30 | 5   | 3 | ✓ 0,577 |
| P3N2VM200A030L100R060W           | 20 | 20 | 19   | 151 | 100 | 30 | 6   | 3 | ✓ 0,472 |

**PRIMO LINE** 3 FLUTE END MILL FOR ROUGHING & FINISHING ALU POLISHED  
FRAISE ALU, ÉBAUCHE ET FINITION, Z=3 - GOUJURES POLIES

ADAPTION ACC. TO DIN 1835 B  
ATTACHEMENT COMPATIBLE DIN 1835 B



Grade / Nuance  
IN05S

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
+

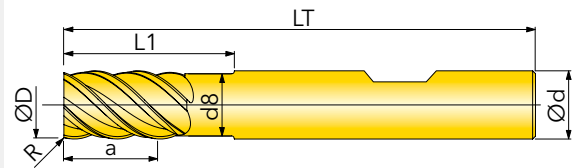
D d h10 h6



+ Preferred choice / Premier choix O Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d  | d8   | LT  | L1  | a  | R   | Z | IK | kg    |
|----------------------------------|----|----|------|-----|-----|----|-----|---|----|-------|
| P3N2VM250A055L100R000W           | 25 | 25 | 23,5 | 151 | 100 | 55 | -   | 3 | ✓  | 0,577 |
| P3N2VM250A055L100R002W           | 25 | 25 | 23,5 | 151 | 100 | 55 | 0,2 | 3 | ✓  | 0,470 |
| P3N2VM250A055L100R004W           | 25 | 25 | 23,5 | 151 | 100 | 55 | 0,4 | 3 | ✓  | 0,578 |
| P3N2VM250A055L100R016W           | 25 | 25 | 23,5 | 151 | 100 | 55 | 1,6 | 3 | ✓  | 0,638 |
| P3N2VM250A055L100R020W           | 25 | 25 | 23,5 | 151 | 100 | 55 | 2   | 3 | ✓  | 0,720 |
| P3N2VM250A055L100R032W           | 25 | 25 | 23,5 | 151 | 100 | 55 | 3,2 | 3 | ✓  | 0,882 |
| P3N2VM250A055L100R040W           | 25 | 25 | 23,5 | 151 | 100 | 55 | 4   | 3 | ✓  | 1,115 |
| P3N2VM250A055L100R050W           | 25 | 25 | 23,5 | 151 | 100 | 55 | 5   | 3 | ✓  | 1,266 |
| P3N2VM250A055L100R060W           | 25 | 25 | 23,5 | 151 | 100 | 55 | 6   | 3 | ✓  | 0,880 |
| P3N2VM250A055L100R064W           | 25 | 25 | 23,5 | 151 | 100 | 55 | 6,4 | 3 | ✓  | 0,879 |
| P3N2VM250A038L125R000W           | 25 | 25 | 23,5 | 182 | 125 | 38 | -   | 3 | ✓  | 1,112 |
| P3N2VM250A038L125R002W           | 25 | 25 | 23,5 | 182 | 125 | 38 | 0,2 | 3 | ✓  | 0,635 |
| P3N2VM250A038L125R004W           | 25 | 25 | 23,5 | 182 | 125 | 38 | 0,4 | 3 | ✓  | 0,713 |
| P3N2VM250A038L125R016W           | 25 | 25 | 23,5 | 182 | 125 | 38 | 1,6 | 3 | ✓  | 0,880 |
| P3N2VM250A038L125R020W           | 25 | 25 | 23,5 | 182 | 125 | 38 | 2   | 3 | ✓  | 1,062 |
| P3N2VM250A038L125R032W           | 25 | 25 | 23,5 | 182 | 125 | 38 | 3,2 | 3 | ✓  | 1,271 |
| P3N2VM250A038L125R040W           | 25 | 25 | 23,5 | 182 | 125 | 38 | 4   | 3 | ✓  | 0,885 |
| P3N2VM250A038L125R050W           | 25 | 25 | 23,5 | 182 | 125 | 38 | 5   | 3 | ✓  | 0,876 |
| P3N2VM250A038L125R060W           | 25 | 25 | 23,5 | 182 | 125 | 38 | 6   | 3 | ✓  | 0,730 |
| P3N2VM250A038L125R064W           | 25 | 25 | 23,5 | 182 | 125 | 38 | 6,4 | 3 | ✓  | 0,876 |

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



Grade / Nuance

IN2205

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
○ + ○ +

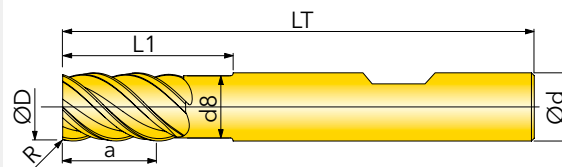
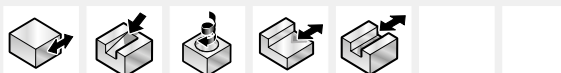
D d h10 h6



+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d  | d8 | LT  | L1 | a  | R   | Z | ✓ | kg    |
|----------------------------------|----|----|----|-----|----|----|-----|---|---|-------|
| P4M2VM080A018L026R003W           | 8  | 8  | 8  | 63  | 26 | 18 | 0,3 | 4 | ✓ | 0,092 |
| P4M2VM080A018L032R003W           | 8  | 8  | 8  | 68  | 32 | 18 | 0,3 | 4 | ✓ | 0,125 |
| P4M2VM100A022L032R005W           | 10 | 10 | 10 | 72  | 32 | 22 | 0,5 | 4 | ✓ | 0,150 |
| P4M2VM100A022L040R005W           | 10 | 10 | 10 | 80  | 40 | 22 | 0,5 | 4 | ✓ | 0,166 |
| P4M2VM120A026L038R005W           | 12 | 12 | 12 | 83  | 38 | 26 | 0,5 | 4 | ✓ | 0,126 |
| P4M2VM120A026L050R005W           | 12 | 12 | 12 | 95  | 50 | 26 | 0,5 | 4 | ✓ | 0,149 |
| P4M2VM160A034L050R010W           | 16 | 16 | 16 | 100 | 50 | 34 | 1   | 4 | ✓ | 0,127 |
| P4M2VM160A034L064R010W           | 16 | 16 | 16 | 112 | 64 | 34 | 1   | 4 | ✓ | 0,152 |
| P4M2VM200A042L062R010W           | 20 | 20 | 20 | 112 | 62 | 42 | 1   | 4 | ✓ | 0,127 |
| P4M2VM200A042L075R010W           | 20 | 20 | 20 | 125 | 75 | 42 | 1   | 4 | ✓ | 0,150 |

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



Grade / Nuance

IN2205

P M K N<sub>(S)</sub> S<sub>(M)</sub> H<sub>(P/K)</sub>  
○ + ○ +

D d h10 h6



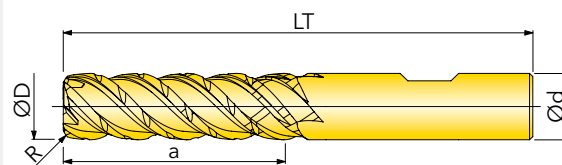
+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d  | LT  | L1 | a  | R   | Z | IK | kg    |
|----------------------------------|----|----|-----|----|----|-----|---|----|-------|
| P5M2SM060A013L019R001W           | 6  | 6  | 55  | 19 | 13 | 0,1 | 5 | ✓  | 0,072 |
| P5M2SM060A010L025R001W           | 6  | 6  | 61  | 25 | 10 | 0,1 | 5 | ✓  | 0,086 |
| P5M2SM080A017L025R001W           | 8  | 8  | 61  | 25 | 17 | 0,1 | 5 | ✓  | 0,092 |
| P5M2SM080A013L033R001W           | 8  | 8  | 69  | 33 | 13 | 0,1 | 5 | ✓  | 0,125 |
| P5M2SM100A022L032R001W           | 10 | 10 | 72  | 32 | 22 | 0,1 | 5 | ✓  | 0,150 |
| P5M2SM100A017L042R001W           | 10 | 10 | 82  | 42 | 17 | 0,1 | 5 | ✓  | 0,166 |
| P5M2SM120A026L038R002W           | 12 | 12 | 83  | 38 | 26 | 0,2 | 5 | ✓  | 0,126 |
| P5M2SM120A020L050R002W           | 12 | 12 | 95  | 50 | 20 | 0,2 | 5 | ✓  | 0,149 |
| P5M2SM160A034L050R002W           | 16 | 16 | 98  | 50 | 34 | 0,2 | 5 | ✓  | 0,127 |
| P5M2SM160A026L066R002W           | 16 | 16 | 114 | 66 | 26 | 0,2 | 5 | ✓  | 0,152 |
| P5M2SM200A042L062R002W           | 20 | 20 | 112 | 62 | 42 | 0,2 | 5 | ✓  | 0,127 |
| P5M2SM200A032L082R002W           | 20 | 20 | 132 | 82 | 32 | 0,2 | 5 | ✓  | 0,150 |

NOTES

**PRIMO LINE** HPC CUTTER 2/3/4XD Z=5 WITH IC  
FRAISE HPC EN 2/3/4XD, Z=5 - ARROSAGE INTÉGRÉ

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



Grade / Nuance

IN1205

P M K N<sub>(S)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
O + O +

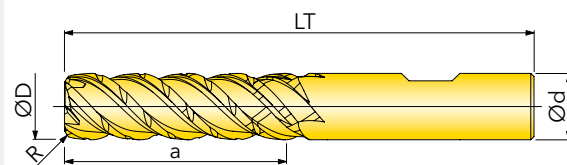
D -0,02 -0,05  
d h5



+ Preferred choice / Premier choix O Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d  | LT  | L1 | a  | R   | Z | IK | kg    |
|----------------------------------|----|----|-----|----|----|-----|---|----|-------|
| P5T2HM080A017R002W               | 8  | 8  | 63  | 17 | 17 | 0,2 | 5 | ✓  | 0,030 |
| P5T2HM080A017R005W               | 8  | 8  | 63  | 17 | 17 | 0,5 | 5 | ✓  | 0,030 |
| P5T2HM080A017R010W               | 8  | 8  | 63  | 17 | 17 | 1   | 5 | ✓  | 0,030 |
| P5T2HM080A025R002W               | 8  | 8  | 68  | 25 | 25 | 0,2 | 5 | ✓  | 0,030 |
| P5T2HM080A025R005W               | 8  | 8  | 68  | 25 | 25 | 0,5 | 5 | ✓  | 0,040 |
| P5T2HM080A025R010W               | 8  | 8  | 68  | 25 | 25 | 1   | 5 | ✓  | 0,040 |
| P5T2HM080A033R002W               | 8  | 8  | 76  | 33 | 33 | 0,2 | 5 | ✓  | 0,040 |
| P5T2HM080A033R005W               | 8  | 8  | 76  | 33 | 33 | 0,5 | 5 | ✓  | 0,055 |
| P5T2HM080A033R010W               | 8  | 8  | 76  | 33 | 33 | 1   | 5 | ✓  | 0,055 |
| P5T2HM100A021R002W               | 10 | 10 | 66  | 21 | 21 | 0,2 | 5 | ✓  | 0,055 |
| P5T2HM100A021R005W               | 10 | 10 | 66  | 21 | 21 | 0,5 | 5 | ✓  | 0,055 |
| P5T2HM100A021R010W               | 10 | 10 | 66  | 21 | 21 | 1   | 5 | ✓  | 0,070 |
| P5T2HM100A031R002W               | 10 | 10 | 80  | 31 | 31 | 0,2 | 5 | ✓  | 0,070 |
| P5T2HM100A031R005W               | 10 | 10 | 80  | 31 | 31 | 0,5 | 5 | ✓  | 0,070 |
| P5T2HM100A031R010W               | 10 | 10 | 80  | 31 | 31 | 1   | 5 | ✓  | 0,070 |
| P5T2HM100A041R002W               | 10 | 10 | 88  | 41 | 41 | 0,2 | 5 | ✓  | 0,080 |
| P5T2HM100A041R005W               | 10 | 10 | 88  | 41 | 41 | 0,5 | 5 | ✓  | 0,080 |
| P5T2HM100A041R010W               | 10 | 10 | 88  | 41 | 41 | 1   | 5 | ✓  | 0,080 |
| P5T2HM120A025R002W               | 12 | 12 | 84  | 25 | 25 | 0,2 | 5 | ✓  | 0,080 |
| P5T2HM120A025R005W               | 12 | 12 | 84  | 25 | 25 | 0,5 | 5 | ✓  | 0,100 |
| P5T2HM120A025R010W               | 12 | 12 | 84  | 25 | 25 | 1   | 5 | ✓  | 0,100 |
| P5T2HM120A037R002W               | 12 | 12 | 94  | 37 | 37 | 0,2 | 5 | ✓  | 0,100 |
| P5T2HM120A037R005W               | 12 | 12 | 94  | 37 | 37 | 0,5 | 5 | ✓  | 0,100 |
| P5T2HM120A037R010W               | 12 | 12 | 94  | 37 | 37 | 1   | 5 | ✓  | 0,120 |
| P5T2HM120A049R002W               | 12 | 12 | 99  | 49 | 49 | 0,2 | 5 | ✓  | 0,120 |
| P5T2HM120A049R005W               | 12 | 12 | 99  | 49 | 49 | 0,5 | 5 | ✓  | 0,120 |
| P5T2HM120A049R010W               | 12 | 12 | 99  | 49 | 49 | 1   | 5 | ✓  | 0,120 |
| P5T2HM160A033R004W               | 16 | 16 | 92  | 33 | 33 | 0,4 | 5 | ✓  | 0,220 |
| P5T2HM160A033R010W               | 16 | 16 | 92  | 33 | 33 | 1   | 5 | ✓  | 0,220 |
| P5T2HM160A033R020W               | 16 | 16 | 92  | 33 | 33 | 2   | 5 | ✓  | 0,220 |
| P5T2HM160A033R030W               | 16 | 16 | 92  | 33 | 33 | 3   | 5 | ✓  | 0,220 |
| P5T2HM160A049R004W               | 16 | 16 | 106 | 49 | 49 | 0,4 | 5 | ✓  | 0,350 |
| P5T2HM160A049R010W               | 16 | 16 | 106 | 49 | 49 | 1   | 5 | ✓  | 0,350 |
| P5T2HM160A049R020W               | 16 | 16 | 106 | 49 | 49 | 2   | 5 | ✓  | 0,350 |
| P5T2HM160A049R030W               | 16 | 16 | 106 | 49 | 49 | 3   | 5 | ✓  | 0,350 |
| P5T2HM160A065R004W               | 16 | 16 | 119 | 65 | 65 | 0,4 | 5 | ✓  | 0,400 |
| P5T2HM160A065R010W               | 16 | 16 | 119 | 65 | 65 | 1   | 5 | ✓  | 0,400 |
| P5T2HM160A065R020W               | 16 | 16 | 119 | 65 | 65 | 2   | 5 | ✓  | 0,400 |

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



Grade / Nuance

IN1205

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
○ + ○ +

D -0,02 -0,05  
d h5

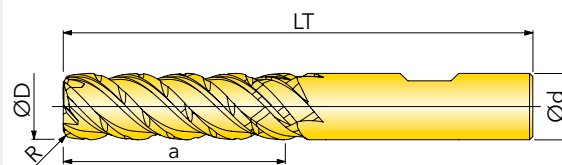


+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d  | LT  | L1 | a  | R   | Z | ✓ | kg    |
|----------------------------------|----|----|-----|----|----|-----|---|---|-------|
| P5T2HM160A065R030W               | 16 | 16 | 119 | 65 | 65 | 3   | 5 | ✓ | 0,400 |
| P5T2HM200A041R004W               | 20 | 20 | 104 | 41 | 41 | 0,4 | 5 | ✓ | 0,550 |
| P5T2HM200A041R010W               | 20 | 20 | 104 | 41 | 41 | 1   | 5 | ✓ | 0,550 |
| P5T2HM200A041R020W               | 20 | 20 | 104 | 41 | 41 | 2   | 5 | ✓ | 0,550 |
| P5T2HM200A041R030W               | 20 | 20 | 104 | 41 | 41 | 3   | 5 | ✓ | 0,550 |
| P5T2HM200A061R004W               | 20 | 20 | 124 | 61 | 61 | 0,4 | 5 | ✓ | 0,580 |
| P5T2HM200A061R010W               | 20 | 20 | 124 | 61 | 61 | 1   | 5 | ✓ | 0,580 |
| P5T2HM200A061R020W               | 20 | 20 | 124 | 61 | 61 | 2   | 5 | ✓ | 0,580 |
| P5T2HM200A061R030W               | 20 | 20 | 124 | 61 | 61 | 3   | 5 | ✓ | 0,580 |
| P5T2HM200A081R004W               | 20 | 20 | 142 | 81 | 81 | 0,4 | 5 | ✓ | 0,630 |
| P5T2HM200A081R010W               | 20 | 20 | 142 | 81 | 81 | 1   | 5 | ✓ | 0,630 |
| P5T2HM200A081R020W               | 20 | 20 | 142 | 81 | 81 | 2   | 5 | ✓ | 0,630 |
| P5T2HM200A081R030W               | 20 | 20 | 142 | 81 | 81 | 3   | 5 | ✓ | 0,630 |

**PRIMOLINE** HPC CUTTER 4XD Z=5 WITH IC  
FRAISE HPC EN 4XD, Z=5 - ARROSAGE INTÉGRÉ

ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



Grade / Nuance

IN2205

P M K N<sub>(S)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
○ + ○ +

D 0,02 - 0,05  
d h5

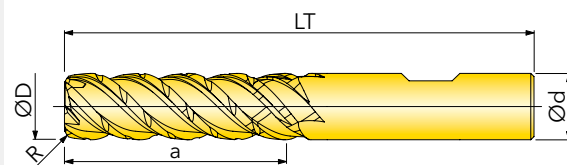


+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d  | LT  | L1 | a  | R   | Z | IK | kg    |
|----------------------------------|----|----|-----|----|----|-----|---|----|-------|
| P5M2HM080A033R002W               | 8  | 8  | 76  | 33 | 33 | 0,2 | 5 | ✓  | 0,020 |
| P5M2HM080A033R005W               | 8  | 8  | 76  | 33 | 33 | 0,5 | 5 | ✓  | 0,055 |
| P5M2HM080A033R010W               | 8  | 8  | 76  | 33 | 33 | 1   | 5 | ✓  | 0,092 |
| P5M2HM100A041R002W               | 10 | 10 | 88  | 41 | 41 | 0,2 | 5 | ✓  | 0,125 |
| P5M2HM100A041R005W               | 10 | 10 | 88  | 41 | 41 | 0,5 | 5 | ✓  | 0,150 |
| P5M2HM100A041R010W               | 10 | 10 | 88  | 41 | 41 | 1   | 5 | ✓  | 0,166 |
| P5M2HM120A049R002W               | 12 | 12 | 100 | 49 | 49 | 0,2 | 5 | ✓  | 0,126 |
| P5M2HM120A049R005W               | 12 | 12 | 100 | 49 | 49 | 0,5 | 5 | ✓  | 0,149 |
| P5M2HM120A049R010W               | 12 | 12 | 100 | 49 | 49 | 1   | 5 | ✓  | 0,127 |
| P5M2HM160A065R004W               | 16 | 16 | 122 | 65 | 65 | 0,4 | 5 | ✓  | 0,152 |
| P5M2HM160A065R010W               | 16 | 16 | 122 | 65 | 65 | 1   | 5 | ✓  | 0,127 |
| P5M2HM160A065R020W               | 16 | 16 | 122 | 65 | 65 | 2   | 5 | ✓  | 0,150 |
| P5M2HM160A065R030W               | 16 | 16 | 122 | 65 | 65 | 3   | 5 | ✓  | 0,127 |
| P5M2HM200A081R004W               | 20 | 20 | 142 | 81 | 81 | 0,4 | 5 | ✓  | 0,149 |
| P5M2HM200A081R010W               | 20 | 20 | 142 | 81 | 81 | 1   | 5 | ✓  | 0,168 |
| P5M2HM200A081R020W               | 20 | 20 | 142 | 81 | 81 | 2   | 5 | ✓  | 0,187 |
| P5M2HM200A081R030W               | 20 | 20 | 142 | 81 | 81 | 3   | 5 | ✓  | 0,225 |



ADAPTION ACC. TO DIN 6535 HB  
ATTACHEMENT DIN 6535 HB



Grade / Nuance

IN2205

P M K N<sub>(K)</sub> S<sub>(M)</sub> H<sub>(PK)</sub>  
○ + ○ +

D -0,02 -0,05  
d h5



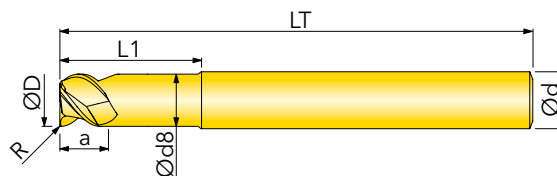
+ Preferred choice / Premier choix ○ Second choice / Second choix

| Designation<br>Réf. de l'article | D  | d  | LT  | a  | R   | Z | IK | kg    |
|----------------------------------|----|----|-----|----|-----|---|----|-------|
| P6M2HM080A017R002W               | 8  | 8  | 63  | 17 | 0,2 | 6 | ✓  | 0,040 |
| P6M2HM080A025R002W               | 8  | 8  | 68  | 25 | 0,2 | 6 | ✓  | 0,055 |
| P6M2HM080A017R005W               | 8  | 8  | 63  | 17 | 0,5 | 6 | ✓  | 0,040 |
| P6M2HM080A025R005W               | 8  | 8  | 68  | 25 | 0,5 | 6 | ✓  | 0,055 |
| P6M2HM080A017R010W               | 8  | 8  | 63  | 17 | 1   | 6 | ✓  | 0,040 |
| P6M2HM080A025R010W               | 8  | 8  | 68  | 25 | 1   | 6 | ✓  | 0,055 |
| P6M2HM100A021R002W               | 10 | 10 | 66  | 21 | 0,2 | 6 | ✓  | 0,070 |
| P6M2HM100A031R002W               | 10 | 10 | 80  | 31 | 0,2 | 6 | ✓  | 0,080 |
| P6M2HM100A021R005W               | 10 | 10 | 66  | 21 | 0,5 | 6 | ✓  | 0,070 |
| P6M2HM100A031R005W               | 10 | 10 | 80  | 31 | 0,5 | 6 | ✓  | 0,080 |
| P6M2HM100A021R010W               | 10 | 10 | 66  | 21 | 1   | 6 | ✓  | 0,070 |
| P6M2HM100A031R010W               | 10 | 10 | 80  | 31 | 1   | 6 | ✓  | 0,080 |
| P6M2HM120A025R002W               | 12 | 12 | 83  | 25 | 0,2 | 6 | ✓  | 0,110 |
| P6M2HM120A037R002W               | 12 | 12 | 95  | 37 | 0,2 | 6 | ✓  | 0,180 |
| P6M2HM120A025R005W               | 12 | 12 | 83  | 25 | 0,5 | 6 | ✓  | 0,110 |
| P6M2HM120A037R005W               | 12 | 12 | 95  | 37 | 0,5 | 6 | ✓  | 0,180 |
| P6M2HM120A025R010W               | 12 | 12 | 83  | 25 | 1   | 6 | ✓  | 0,110 |
| P6M2HM120A037R010W               | 12 | 12 | 95  | 37 | 1   | 6 | ✓  | 0,180 |
| P6M2HM160A033R004W               | 16 | 16 | 92  | 33 | 0,4 | 6 | ✓  | 0,300 |
| P6M2HM160A049R004W               | 16 | 16 | 106 | 49 | 0,4 | 6 | ✓  | 0,380 |
| P6M2HM160A033R010W               | 16 | 16 | 92  | 33 | 1   | 6 | ✓  | 0,300 |
| P6M2HM160A049R010W               | 16 | 16 | 106 | 49 | 1   | 6 | ✓  | 0,380 |
| P6M2HM160A033R020W               | 16 | 16 | 92  | 33 | 2   | 6 | ✓  | 0,300 |
| P6M2HM160A049R020W               | 16 | 16 | 106 | 49 | 2   | 6 | ✓  | 0,380 |
| P6M2HM160A033R030W               | 16 | 16 | 92  | 33 | 3   | 6 | ✓  | 0,300 |
| P6M2HM160A049R030W               | 16 | 16 | 106 | 49 | 3   | 6 | ✓  | 0,380 |
| P6M2HM200A041R004W               | 20 | 20 | 104 | 41 | 0,4 | 6 | ✓  | 0,450 |
| P6M2HM200A061R004W               | 20 | 20 | 125 | 61 | 0,4 | 6 | ✓  | 0,550 |
| P6M2HM200A041R010W               | 20 | 20 | 104 | 41 | 1   | 6 | ✓  | 0,450 |
| P6M2HM200A061R010W               | 20 | 20 | 125 | 61 | 1   | 6 | ✓  | 0,550 |
| P6M2HM200A041R020W               | 20 | 20 | 104 | 41 | 2   | 6 | ✓  | 0,450 |
| P6M2HM200A061R020W               | 20 | 20 | 125 | 61 | 2   | 6 | ✓  | 0,550 |
| P6M2HM200A041R030W               | 20 | 20 | 104 | 41 | 3   | 6 | ✓  | 0,450 |
| P6M2HM200A061R030W               | 20 | 20 | 125 | 61 | 3   | 6 | ✓  | 0,550 |

ADAPTION ACC. TO DIN 6535 HA  
ATTACHEMENT DIN 6535 HA



High material removal for machining nickel-based alloys like Inconel.  
Grand débit copeaux dans l'usinage des alliages à base Nickel tel que l'Inconel Fraise Grande Avance Céramique



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |  | D | 0/-0,02 |  |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|--|---|---------|--|--|--|--|--|--|--|--|
| IN75N           |   |   | + |                  | +                |                   |  | d | h6      |  |  |  |  |  |  |  |  |

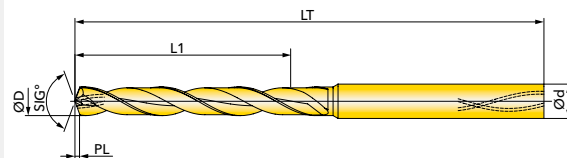
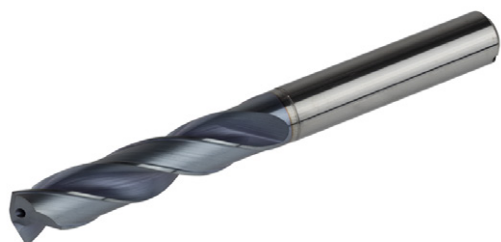
+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D  | d  | d8   | LT | L1 | a  | R    | Z |       |
|----------------------------------|----|----|------|----|----|----|------|---|-------|
| INCER060.042.015Z3               | 6  | 6  | 5,5  | 50 | 15 | 6  | 0,42 | 3 | 0,010 |
| INCER080.056.020Z3               | 8  | 8  | 7,5  | 57 | 20 | 8  | 0,56 | 3 | 0,036 |
| INCER100.070.025Z3               | 10 | 10 | 9,5  | 65 | 25 | 8  | 0,70 | 3 | 0,064 |
| INCER120.110.030Z3               | 12 | 12 | 11,5 | 72 | 30 | 10 | 1,10 | 3 | 0,101 |
| INCER160.190.035Z3               | 16 | 16 | 15,5 | 83 | 35 | 12 | 1,90 | 3 | 0,200 |

R (Programming radius) / R (Rayon de programmation)

**SOLIDDRILL<sup>2</sup> SOLID CARBIDE DRILL 3D Z=2 Ø3,0-5,9**  
**FORET CARBURE MONOBLOC 3D Z=2 Ø3,0-5,9**

ADAPTION ACC. TO DIN 6535 HA  
 ATTACHEMENT DIN 6535 HA



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2205          | + |   | + |                  |                  |                   |

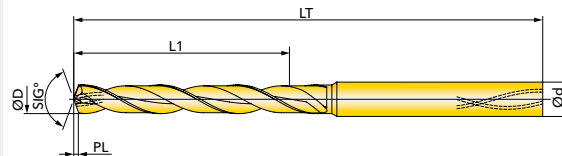
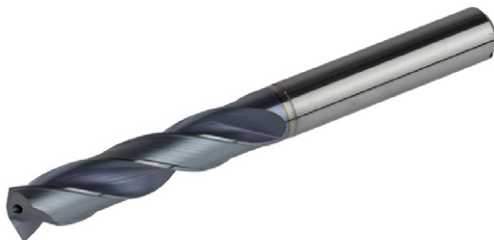


☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix
 ▼ Roughing / Ebauche
 ▼▼ Pre-finishing / Semi-finition
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D   | d | LT | L1   | PL   | λ   | Z | IK | kg   |
|----------------------------------|-----|---|----|------|------|-----|---|----|------|
| DE0300015T7R01                   | 3,0 | 6 | 62 | 15,5 | 0,55 | 135 | 2 | ✓  | 0,03 |
| DE0310015T7R01                   | 3,1 | 6 | 62 | 15,4 | 0,56 | 135 | 2 | ✓  | 0,03 |
| DE0320015T7R01                   | 3,2 | 6 | 62 | 15,2 | 0,58 | 135 | 2 | ✓  | 0,03 |
| DE0330015T7R01                   | 3,3 | 6 | 62 | 15,1 | 0,60 | 135 | 2 | ✓  | 0,03 |
| DE0340014T7R01                   | 3,4 | 6 | 62 | 14,9 | 0,62 | 135 | 2 | ✓  | 0,03 |
| DE0350014T7R01                   | 3,5 | 6 | 62 | 14,7 | 0,64 | 135 | 2 | ✓  | 0,03 |
| DE0360014T7R01                   | 3,6 | 6 | 62 | 14,6 | 0,66 | 135 | 2 | ✓  | 0,03 |
| DE0370014T7R01                   | 3,7 | 6 | 62 | 14,5 | 0,67 | 135 | 2 | ✓  | 0,03 |
| DE0380018T7R01                   | 3,8 | 6 | 66 | 18,3 | 0,69 | 135 | 2 | ✓  | 0,03 |
| DE0390018T7R01                   | 3,9 | 6 | 66 | 18,2 | 0,71 | 135 | 2 | ✓  | 0,03 |
| DE0400018T7R01                   | 4,0 | 6 | 66 | 18,0 | 0,73 | 135 | 2 | ✓  | 0,03 |
| DE0410017T7R01                   | 4,1 | 6 | 66 | 17,9 | 0,75 | 135 | 2 | ✓  | 0,03 |
| DE0420017T7R01                   | 4,2 | 6 | 66 | 17,7 | 0,76 | 135 | 2 | ✓  | 0,03 |
| DE0430017T7R01                   | 4,3 | 6 | 66 | 17,6 | 0,78 | 135 | 2 | ✓  | 0,03 |
| DE0440017T7R01                   | 4,4 | 6 | 66 | 17,4 | 0,80 | 135 | 2 | ✓  | 0,03 |
| DE0450017T7R01                   | 4,5 | 6 | 66 | 17,2 | 0,82 | 135 | 2 | ✓  | 0,03 |
| DE0460017T7R01                   | 4,6 | 6 | 66 | 17,1 | 0,84 | 135 | 2 | ✓  | 0,03 |
| DE0470017T7R01                   | 4,7 | 6 | 66 | 17,0 | 0,86 | 135 | 2 | ✓  | 0,03 |
| DE0480020T7R01                   | 4,8 | 6 | 66 | 20,8 | 0,87 | 135 | 2 | ✓  | 0,03 |
| DE0490020T7R01                   | 4,9 | 6 | 66 | 20,7 | 0,89 | 135 | 2 | ✓  | 0,03 |
| DE0500020T7R01                   | 5,0 | 6 | 66 | 20,5 | 0,91 | 135 | 2 | ✓  | 0,03 |
| DE0510020T7R01                   | 5,1 | 6 | 66 | 20,4 | 0,93 | 135 | 2 | ✓  | 0,03 |
| DE0520020T7R01                   | 5,2 | 6 | 66 | 20,2 | 0,93 | 135 | 2 | ✓  | 0,03 |
| DE0530020T7R01                   | 5,3 | 6 | 66 | 20,0 | 0,96 | 135 | 2 | ✓  | 0,03 |
| DE0540019T7R01                   | 5,4 | 6 | 66 | 19,9 | 0,98 | 135 | 2 | ✓  | 0,03 |
| DE0550019T7R01                   | 5,5 | 6 | 66 | 19,8 | 1,00 | 135 | 2 | ✓  | 0,03 |
| DE0560019T7R01                   | 5,6 | 6 | 66 | 19,7 | 1,02 | 135 | 2 | ✓  | 0,03 |
| DE0570019T7R01                   | 5,7 | 6 | 66 | 19,5 | 1,04 | 135 | 2 | ✓  | 0,03 |
| DE0580019T7R01                   | 5,8 | 6 | 66 | 19,3 | 1,06 | 135 | 2 | ✓  | 0,03 |
| DE0590019T7R01                   | 5,9 | 6 | 66 | 19,1 | 1,07 | 135 | 2 | ✓  | 0,03 |

**SOLIDDRILL<sup>2</sup> SOLID CARBIDE DRILL 3D Z=2 Ø6,0-8,9**  
**FORET CARBURE MONOBLOC 3D Z=2 Ø6,0-8,9**

ADAPTION ACC. TO DIN 6535 HA  
 ATTACHEMENT DIN 6535 HA



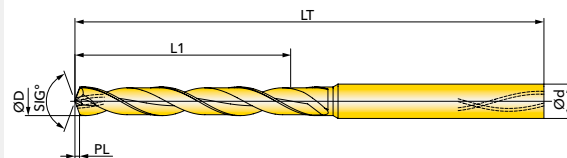
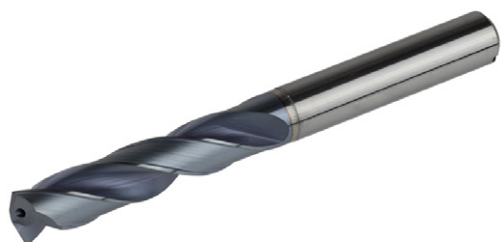
| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2205          | + |   | + |                  |                  |                   |



☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix
 ▼ Roughing / Ebauche
 ▼▼ Pre-finishing / Semi-finition
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D   | d  | LT | L1   | PL   | λ   | Z | IK | kg   |
|----------------------------------|-----|----|----|------|------|-----|---|----|------|
| DE0600019T7R01                   | 6,0 | 6  | 66 | 19,0 | 1,09 | 135 | 2 | ✓  | 0,05 |
| DE0610024T0R01                   | 6,1 | 8  | 79 | 24,8 | 1,11 | 135 | 2 | ✓  | 0,05 |
| DE0620024T0R01                   | 6,2 | 8  | 79 | 24,7 | 1,13 | 135 | 2 | ✓  | 0,05 |
| DE0630024T0R01                   | 6,3 | 8  | 79 | 24,6 | 1,15 | 135 | 2 | ✓  | 0,05 |
| DE0640024T0R01                   | 6,4 | 8  | 79 | 24,4 | 1,16 | 135 | 2 | ✓  | 0,05 |
| DE0650024T0R01                   | 6,5 | 8  | 79 | 24,3 | 1,18 | 135 | 2 | ✓  | 0,05 |
| DE0660024T0R01                   | 6,6 | 8  | 79 | 24,1 | 1,20 | 135 | 2 | ✓  | 0,05 |
| DE0670023T0R01                   | 6,7 | 8  | 79 | 23,9 | 1,22 | 135 | 2 | ✓  | 0,05 |
| DE0680023T0R01                   | 6,8 | 8  | 79 | 23,8 | 1,24 | 135 | 2 | ✓  | 0,05 |
| DE0690030T0R01                   | 6,9 | 8  | 79 | 30,7 | 1,26 | 135 | 2 | ✓  | 0,05 |
| DE0700030T0R01                   | 7,0 | 8  | 79 | 30,5 | 1,27 | 135 | 2 | ✓  | 0,05 |
| DE0710030T0R01                   | 7,1 | 8  | 79 | 30,4 | 1,29 | 135 | 2 | ✓  | 0,05 |
| DE0720030T0R01                   | 7,2 | 8  | 79 | 30,2 | 1,31 | 135 | 2 | ✓  | 0,05 |
| DE0730030T0R01                   | 7,3 | 8  | 79 | 30,1 | 1,33 | 135 | 2 | ✓  | 0,05 |
| DE0740029T0R01                   | 7,4 | 8  | 79 | 29,9 | 1,35 | 135 | 2 | ✓  | 0,05 |
| DE0750029T0R01                   | 7,5 | 8  | 79 | 29,8 | 1,37 | 135 | 2 | ✓  | 0,05 |
| DE0770029T0R01                   | 7,7 | 8  | 79 | 29,5 | 1,40 | 135 | 2 | ✓  | 0,05 |
| DE0780029T0R01                   | 7,8 | 8  | 79 | 29,3 | 1,42 | 135 | 2 | ✓  | 0,05 |
| DE0790029T0R01                   | 7,9 | 8  | 79 | 29,2 | 1,44 | 135 | 2 | ✓  | 0,05 |
| DE0800029T0R01                   | 8,0 | 8  | 79 | 29,0 | 1,46 | 135 | 2 | ✓  | 0,05 |
| DE0810034T1R01                   | 8,1 | 10 | 89 | 34,9 | 1,47 | 135 | 2 | ✓  | 0,07 |
| DE0820034T1R01                   | 8,2 | 10 | 89 | 34,7 | 1,49 | 135 | 2 | ✓  | 0,07 |
| DE0830034T1R01                   | 8,3 | 10 | 89 | 34,5 | 1,51 | 135 | 2 | ✓  | 0,07 |
| DE0840034T1R01                   | 8,4 | 10 | 89 | 34,4 | 1,53 | 135 | 2 | ✓  | 0,07 |
| DE0850034T1R01                   | 8,5 | 10 | 89 | 34,3 | 1,55 | 135 | 2 | ✓  | 0,07 |
| DE0860034T1R01                   | 8,6 | 10 | 89 | 34,1 | 1,57 | 135 | 2 | ✓  | 0,07 |
| DE0870034T1R01                   | 8,7 | 10 | 89 | 34,0 | 1,58 | 135 | 2 | ✓  | 0,07 |
| DE0880033T1R01                   | 8,8 | 10 | 89 | 33,8 | 1,60 | 135 | 2 | ✓  | 0,07 |
| DE0890033T1R01                   | 8,9 | 10 | 89 | 33,6 | 1,63 | 135 | 2 | ✓  | 0,07 |

ADAPTION ACC. TO DIN 6535 HA  
ATTACHEMENT DIN 6535 HA



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2205          | + |   | + |                  |                  |                   |

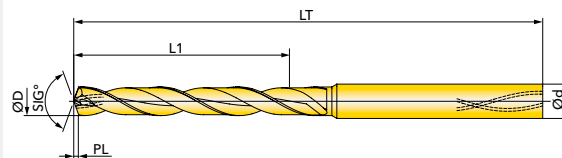
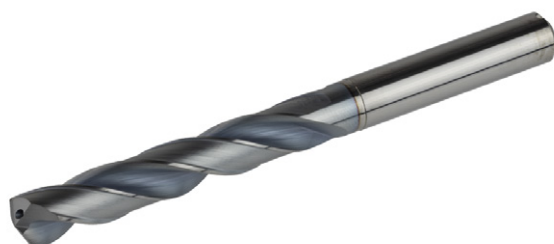


☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix
 ▼ Roughing / Ebauche
 ▼▼ Pre-finishing / Semi-finition
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D    | d  | LT  | L1   | PL   | λ   | Z | IK | kg   |
|----------------------------------|------|----|-----|------|------|-----|---|----|------|
| DE0900033T1R01                   | 9,0  | 10 | 89  | 33,5 | 1,64 | 135 | 2 | ✓  | 0,08 |
| DE0910033T1R01                   | 9,1  | 10 | 89  | 33,3 | 1,65 | 135 | 2 | ✓  | 0,08 |
| DE0920033T1R01                   | 9,2  | 10 | 89  | 33,2 | 1,67 | 135 | 2 | ✓  | 0,08 |
| DE0930033T1R01                   | 9,3  | 10 | 89  | 33,0 | 1,69 | 135 | 2 | ✓  | 0,08 |
| DE0940033T1R01                   | 9,4  | 10 | 89  | 32,6 | 1,71 | 135 | 2 | ✓  | 0,08 |
| DE0950032T1R01                   | 9,5  | 10 | 89  | 32,8 | 1,73 | 135 | 2 | ✓  | 0,08 |
| DE0960032T1R01                   | 9,6  | 10 | 89  | 32,6 | 1,75 | 135 | 2 | ✓  | 0,08 |
| DE0970032T1R01                   | 9,7  | 10 | 89  | 32,4 | 1,76 | 135 | 2 | ✓  | 0,08 |
| DE0980032T1R01                   | 9,8  | 10 | 89  | 32,3 | 1,78 | 135 | 2 | ✓  | 0,08 |
| DE0990032T1R01                   | 9,9  | 10 | 89  | 32,1 | 1,80 | 135 | 2 | ✓  | 0,08 |
| DE1000032T1R01                   | 10,0 | 10 | 89  | 32,0 | 1,82 | 135 | 2 | ✓  | 0,08 |
| DE1010039T2R01                   | 10,1 | 12 | 102 | 39,9 | 1,84 | 135 | 2 | ✓  | 0,09 |
| DE1020039T2R01                   | 10,2 | 12 | 102 | 39,7 | 1,86 | 135 | 2 | ✓  | 0,09 |
| DE1030039T2R01                   | 10,3 | 12 | 102 | 39,6 | 1,87 | 135 | 2 | ✓  | 0,09 |
| DE1040039T2R01                   | 10,4 | 12 | 102 | 39,4 | 1,89 | 135 | 2 | ✓  | 0,09 |
| DE1050039T2R01                   | 10,5 | 12 | 102 | 39,3 | 1,91 | 135 | 2 | ✓  | 0,09 |
| DE1060039T2R01                   | 10,6 | 12 | 102 | 38,8 | 1,93 | 135 | 2 | ✓  | 0,12 |
| DE1070039T2R01                   | 10,7 | 12 | 102 | 38,8 | 1,95 | 135 | 2 | ✓  | 0,12 |
| DE1080039T2R01                   | 10,8 | 12 | 102 | 38,8 | 1,97 | 135 | 2 | ✓  | 0,12 |
| DE1100038T2R01                   | 11,0 | 12 | 102 | 38,3 | 2,00 | 135 | 2 | ✓  | 0,12 |
| DE1111038T2R01                   | 11,1 | 12 | 102 | 38,3 | 2,02 | 135 | 2 | ✓  | 0,12 |
| DE1120038T2R01                   | 11,2 | 12 | 102 | 38,2 | 2,04 | 135 | 2 | ✓  | 0,12 |
| DE1130038T2R01                   | 11,3 | 12 | 102 | 38,2 | 2,05 | 135 | 2 | ✓  | 0,12 |
| DE1140038T2R01                   | 11,4 | 12 | 102 | 38,2 | 2,06 | 135 | 2 | ✓  | 0,12 |
| DE1150037T2R01                   | 11,5 | 12 | 102 | 37,7 | 2,09 | 135 | 2 | ✓  | 0,15 |
| DE1160038T2R01                   | 11,6 | 12 | 102 | 37,6 | 2,10 | 135 | 2 | ✓  | 0,15 |
| DE1170037T2R01                   | 11,7 | 12 | 102 | 37,5 | 2,13 | 135 | 2 | ✓  | 0,15 |
| DE1180037T2R01                   | 11,8 | 12 | 102 | 37,3 | 2,15 | 135 | 2 | ✓  | 0,15 |
| DE1190037T2R01                   | 11,9 | 12 | 102 | 37,1 | 2,17 | 135 | 2 | ✓  | 0,15 |
| DE1200037T2R01                   | 12,0 | 12 | 102 | 37,0 | 2,18 | 135 | 2 | ✓  | 0,15 |

**SOLIDDRILL<sup>2</sup>** SOLID CARBIDE DRILL 5D Z=2 Ø3,0-5,9  
FORET CARBURE MONOBLOC 5D Z=2 Ø3,0-5,9

ADAPTION ACC. TO DIN 6535 HA  
ATTACHEMENT DIN 6535 HA



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2205          | + |   | + |                  |                  |                   |

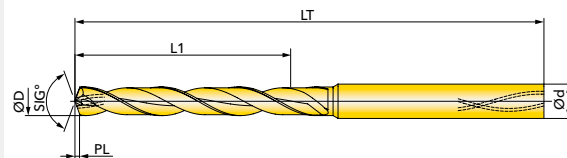


+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D   | d | LT | L1   | PL   | λ   | Z | IK | kg   |
|----------------------------------|-----|---|----|------|------|-----|---|----|------|
| DE0300023T7R01                   | 3,0 | 6 | 66 | 23,5 | 0,55 | 135 | 2 | ✓  | 0,04 |
| DE0310023T7R01                   | 3,1 | 6 | 66 | 23,4 | 0,56 | 135 | 2 | ✓  | 0,04 |
| DE0320023T7R01                   | 3,2 | 6 | 66 | 23,2 | 0,58 | 135 | 2 | ✓  | 0,04 |
| DE0330023T7R01                   | 3,3 | 6 | 66 | 23,1 | 0,60 | 135 | 2 | ✓  | 0,04 |
| DE0340022T7R01                   | 3,4 | 6 | 66 | 22,9 | 0,62 | 135 | 2 | ✓  | 0,04 |
| DE0350022T7R01                   | 3,5 | 6 | 66 | 22,8 | 0,64 | 135 | 2 | ✓  | 0,04 |
| DE0360022T7R01                   | 3,6 | 6 | 66 | 22,6 | 0,66 | 135 | 2 | ✓  | 0,04 |
| DE0370022T7R01                   | 3,7 | 6 | 66 | 22,4 | 0,67 | 135 | 2 | ✓  | 0,04 |
| DE0380030T7R01                   | 3,8 | 6 | 74 | 30,3 | 0,69 | 135 | 2 | ✓  | 0,04 |
| DE0390030T7R01                   | 3,9 | 6 | 74 | 30,2 | 0,71 | 135 | 2 | ✓  | 0,04 |
| DE0400030T7R01                   | 4,0 | 6 | 74 | 30,0 | 0,73 | 135 | 2 | ✓  | 0,04 |
| DE0410029T7R01                   | 4,1 | 6 | 74 | 29,9 | 0,75 | 135 | 2 | ✓  | 0,04 |
| DE0420029T7R01                   | 4,2 | 6 | 74 | 29,7 | 0,76 | 135 | 2 | ✓  | 0,04 |
| DE0430029T7R01                   | 4,3 | 6 | 74 | 29,6 | 0,78 | 135 | 2 | ✓  | 0,04 |
| DE0440029T7R01                   | 4,4 | 6 | 74 | 29,4 | 0,80 | 135 | 2 | ✓  | 0,04 |
| DE0450029T7R01                   | 4,5 | 6 | 74 | 29,2 | 0,82 | 135 | 2 | ✓  | 0,04 |
| DE0460029T7R01                   | 4,6 | 6 | 74 | 29,1 | 0,84 | 135 | 2 | ✓  | 0,04 |
| DE0470029T7R01                   | 4,7 | 6 | 74 | 29,0 | 0,86 | 135 | 2 | ✓  | 0,04 |
| DE0480036T7R01                   | 4,8 | 6 | 82 | 36,8 | 0,87 | 135 | 2 | ✓  | 0,04 |
| DE0490036T7R01                   | 4,9 | 6 | 82 | 36,7 | 0,89 | 135 | 2 | ✓  | 0,04 |
| DE0500036T7R01                   | 5,0 | 6 | 82 | 36,5 | 0,91 | 135 | 2 | ✓  | 0,04 |
| DE0510036T7R01                   | 5,1 | 6 | 82 | 36,3 | 0,93 | 135 | 2 | ✓  | 0,04 |
| DE0520036T7R01                   | 5,2 | 6 | 82 | 36,2 | 0,95 | 135 | 2 | ✓  | 0,04 |
| DE0530036T7R01                   | 5,3 | 6 | 82 | 36,1 | 0,96 | 135 | 2 | ✓  | 0,04 |
| DE0540035T7R01                   | 5,4 | 6 | 82 | 35,9 | 0,98 | 135 | 2 | ✓  | 0,04 |
| DE0550035T7R01                   | 5,5 | 6 | 82 | 35,8 | 1,00 | 135 | 2 | ✓  | 0,04 |
| DE0560035T7R01                   | 5,6 | 6 | 82 | 35,6 | 1,02 | 135 | 2 | ✓  | 0,04 |
| DE0570035T7R01                   | 5,7 | 6 | 82 | 35,5 | 1,04 | 135 | 2 | ✓  | 0,04 |
| DE0580035T7R01                   | 5,8 | 6 | 82 | 35,3 | 1,06 | 135 | 2 | ✓  | 0,04 |
| DE0590035T7R01                   | 5,9 | 6 | 82 | 35,2 | 1,07 | 135 | 2 | ✓  | 0,04 |

**SOLIDDRILL<sup>2</sup> SOLID CARBIDE DRILL 5D Z=2 Ø6,0-8,9**  
**FORET CARBURE MONOBLOC 5D Z=2 Ø6,0-8,9**

ADAPTION ACC. TO DIN 6535 HA  
 ATTACHEMENT DIN 6535 HA



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2205          | + |   | + |                  |                  |                   |

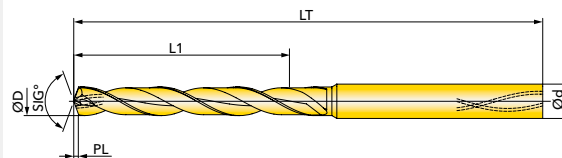
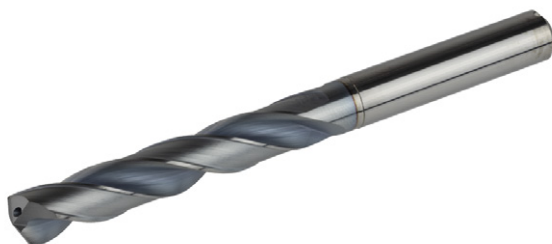


☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix
 ▼ Roughing / Ebauche
 ▼▼ Pre-finishing / Semi-finition
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D   | d  | LT  | L1   | PL   | λ   | Z | IK | kg   |
|----------------------------------|-----|----|-----|------|------|-----|---|----|------|
| DE0600035T7R01                   | 6,0 | 6  | 82  | 35,0 | 1,09 | 135 | 2 | ✓  | 0,06 |
| DE0610043T0R01                   | 6,1 | 8  | 91  | 43,8 | 1,11 | 135 | 2 | ✓  | 0,06 |
| DE0620043T0R01                   | 6,2 | 8  | 91  | 43,7 | 1,13 | 135 | 2 | ✓  | 0,06 |
| DE0630043T0R01                   | 6,3 | 8  | 91  | 43,6 | 1,15 | 135 | 2 | ✓  | 0,06 |
| DE0640043T0R01                   | 6,4 | 8  | 91  | 43,4 | 1,16 | 135 | 2 | ✓  | 0,06 |
| DE0650043T0R01                   | 6,5 | 8  | 91  | 43,3 | 1,18 | 135 | 2 | ✓  | 0,06 |
| DE0660043T0R01                   | 6,6 | 8  | 91  | 43,1 | 1,20 | 135 | 2 | ✓  | 0,06 |
| DE0670042T0R01                   | 6,7 | 8  | 91  | 42,9 | 1,22 | 135 | 2 | ✓  | 0,06 |
| DE0680042T0R01                   | 6,8 | 8  | 91  | 42,8 | 1,24 | 135 | 2 | ✓  | 0,06 |
| DE0690042T0R01                   | 6,9 | 8  | 91  | 42,6 | 1,26 | 135 | 2 | ✓  | 0,06 |
| DE0700042T0R01                   | 7,0 | 8  | 91  | 42,5 | 1,27 | 135 | 2 | ✓  | 0,06 |
| DE0710042T0R01                   | 7,1 | 8  | 91  | 42,4 | 1,29 | 135 | 2 | ✓  | 0,06 |
| DE0720042T0R01                   | 7,2 | 8  | 91  | 42,2 | 1,31 | 135 | 2 | ✓  | 0,06 |
| DE0730042T0R01                   | 7,3 | 8  | 91  | 42,0 | 1,33 | 135 | 2 | ✓  | 0,06 |
| DE0740041T0R01                   | 7,4 | 8  | 91  | 41,9 | 1,35 | 135 | 2 | ✓  | 0,06 |
| DE0750041T0R01                   | 7,5 | 8  | 91  | 41,7 | 1,37 | 135 | 2 | ✓  | 0,06 |
| DE0760041T0R01                   | 7,6 | 8  | 91  | 41,6 | 1,38 | 135 | 2 | ✓  | 0,06 |
| DE0770042T0R01                   | 7,7 | 8  | 91  | 41,5 | 1,40 | 135 | 2 | ✓  | 0,06 |
| DE0780041T0R01                   | 7,8 | 8  | 91  | 41,3 | 1,42 | 135 | 2 | ✓  | 0,06 |
| DE0790041T0R01                   | 7,9 | 8  | 91  | 41,2 | 1,44 | 135 | 2 | ✓  | 0,06 |
| DE0800041T0R01                   | 8,0 | 8  | 91  | 41,0 | 1,46 | 135 | 2 | ✓  | 0,06 |
| DE0810048T1R01                   | 8,1 | 10 | 103 | 48,9 | 1,47 | 135 | 2 | ✓  | 0,08 |
| DE0820048T1R01                   | 8,2 | 10 | 103 | 48,7 | 1,49 | 135 | 2 | ✓  | 0,08 |
| DE0830048T1R01                   | 8,3 | 10 | 103 | 48,5 | 1,51 | 135 | 2 | ✓  | 0,08 |
| DE0840048T1R01                   | 8,4 | 10 | 103 | 48,4 | 1,63 | 135 | 2 | ✓  | 0,08 |
| DE0850048T1R01                   | 8,5 | 10 | 103 | 48,3 | 1,55 | 135 | 2 | ✓  | 0,08 |
| DE0860048T1R01                   | 8,6 | 10 | 103 | 48,1 | 1,57 | 135 | 2 | ✓  | 0,08 |
| DE0870048T1R01                   | 8,7 | 10 | 103 | 48,0 | 1,58 | 135 | 2 | ✓  | 0,08 |
| DE0880047T1R01                   | 8,8 | 10 | 103 | 47,8 | 1,60 | 135 | 2 | ✓  | 0,08 |
| DE0890047T1R01                   | 8,9 | 10 | 103 | 47,6 | 1,62 | 135 | 2 | ✓  | 0,08 |

**SOLIDDRILL<sup>2</sup> SOLID CARBIDE DRILL 5D Z=2 Ø9,0-12,0**  
**FORET CARBURE MONOBLOC 5D Z=2 Ø9,0-12,0**

ADAPTION ACC. TO DIN 6535 HA  
 ATTACHEMENT DIN 6535 HA



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2205          | + |   | + |                  |                  |                   |



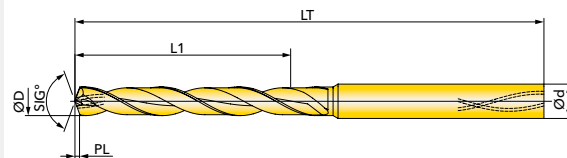
+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D    | d  | LT  | L1   | PL   | λ   | Z | IK | kg   |
|----------------------------------|------|----|-----|------|------|-----|---|----|------|
| DE0900047T1R01                   | 9,0  | 10 | 103 | 47,5 | 1,64 | 135 | 2 | ✓  | 0,09 |
| DE0910047T1R01                   | 9,1  | 10 | 103 | 47,3 | 1,65 | 135 | 2 | ✓  | 0,09 |
| DE0920047T1R01                   | 9,2  | 10 | 103 | 47,2 | 1,67 | 135 | 2 | ✓  | 0,09 |
| DE0930047T1R01                   | 9,3  | 10 | 103 | 47,1 | 1,69 | 135 | 2 | ✓  | 0,09 |
| DE0940047T1R01                   | 9,4  | 10 | 103 | 46,9 | 1,71 | 135 | 2 | ✓  | 0,09 |
| DE0950046T1R01                   | 9,5  | 10 | 103 | 46,8 | 1,73 | 135 | 2 | ✓  | 0,09 |
| DE0960046T1R01                   | 9,6  | 10 | 103 | 46,6 | 1,75 | 135 | 2 | ✓  | 0,09 |
| DE0970046T1R01                   | 9,7  | 10 | 103 | 46,4 | 1,76 | 135 | 2 | ✓  | 0,09 |
| DE0980046T1R01                   | 9,8  | 10 | 103 | 46,3 | 1,78 | 135 | 2 | ✓  | 0,09 |
| DE0990046T1R01                   | 9,9  | 10 | 103 | 46,1 | 1,80 | 135 | 2 | ✓  | 0,09 |
| DE1000046T1R01                   | 10,0 | 10 | 103 | 46,0 | 1,82 | 135 | 2 | ✓  | 0,09 |
| DE1010055T2R01                   | 10,1 | 12 | 118 | 55,9 | 1,84 | 135 | 2 | ✓  | 0,10 |
| DE1020055T2R01                   | 10,2 | 12 | 118 | 55,7 | 1,86 | 135 | 2 | ✓  | 0,10 |
| DE1030055T2R01                   | 10,3 | 12 | 118 | 55,6 | 1,87 | 135 | 2 | ✓  | 0,10 |
| DE1040055T2R01                   | 10,4 | 12 | 118 | 55,4 | 1,89 | 135 | 2 | ✓  | 0,10 |
| DE1050055T2R01                   | 10,5 | 12 | 118 | 55,3 | 1,91 | 135 | 2 | ✓  | 0,10 |
| DE1060055T2R01                   | 10,6 | 12 | 118 | 55,1 | 1,92 | 135 | 2 | ✓  | 0,10 |
| DE1070055T2R01                   | 10,7 | 12 | 118 | 54,9 | 1,94 | 135 | 2 | ✓  | 0,10 |
| DE1080054T2R01                   | 10,8 | 12 | 118 | 54,8 | 1,97 | 135 | 2 | ✓  | 0,13 |
| DE1090054T2R01                   | 10,9 | 12 | 118 | 54,6 | 1,98 | 135 | 2 | ✓  | 0,13 |
| DE1100054T2R01                   | 11,0 | 12 | 118 | 54,5 | 2,00 | 135 | 2 | ✓  | 0,13 |
| DE1110054T2R01                   | 11,1 | 12 | 118 | 54,4 | 2,02 | 135 | 2 | ✓  | 0,13 |
| DE1120054T2R01                   | 11,2 | 12 | 118 | 54,2 | 2,04 | 135 | 2 | ✓  | 0,13 |
| DE1130054T2R01                   | 11,3 | 12 | 118 | 53,9 | 2,07 | 135 | 2 | ✓  | 0,16 |
| DE1140054T2R01                   | 11,4 | 12 | 118 | 53,8 | 2,08 | 135 | 2 | ✓  | 0,16 |
| DE1150053T2R01                   | 11,5 | 12 | 118 | 53,7 | 2,09 | 135 | 2 | ✓  | 0,16 |
| DE1160053T2R01                   | 11,6 | 12 | 118 | 53,6 | 2,11 | 135 | 2 | ✓  | 0,16 |
| DE1170053T2R01                   | 11,7 | 12 | 118 | 53,5 | 2,13 | 135 | 2 | ✓  | 0,16 |
| DE1180053T2R01                   | 11,8 | 12 | 118 | 53,3 | 2,15 | 135 | 2 | ✓  | 0,16 |
| DE1190053T2R01                   | 11,9 | 12 | 118 | 53,1 | 2,17 | 135 | 2 | ✓  | 0,16 |
| DE1200053T2R01                   | 12,0 | 12 | 118 | 53,0 | 2,18 | 135 | 2 | ✓  | 0,16 |



**SOLIDDRILL<sup>2</sup> SOLID CARBIDE DRILL 8D Z=2 Ø3,0-5,9**  
**FORET CARBURE MONOBLOC 8D Z=2 Ø3,0-5,9**

ADAPTION ACC. TO DIN 6535 HA  
 ATTACHEMENT DIN 6535 HA



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2205          | + |   | + |                  |                  |                   |

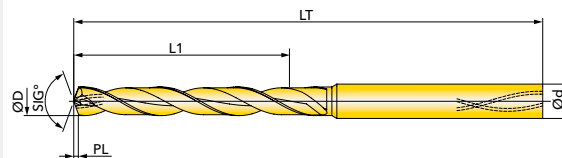


☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix
 ▼ Roughing / Ebauche
 ▼▼ Pre-finishing / Semi-finition
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D   | d | LT | L1   | PL   | λ   | Z | IK | kg   |
|----------------------------------|-----|---|----|------|------|-----|---|----|------|
| DE0300029T7R01                   | 3,0 | 6 | 66 | 23,5 | 0,55 | 135 | 2 | ✓  | 0,04 |
| DE0310029T7R01                   | 3,1 | 6 | 66 | 23,4 | 0,56 | 135 | 2 | ✓  | 0,04 |
| DE0320029T7R01                   | 3,2 | 6 | 66 | 23,1 | 0,60 | 135 | 2 | ✓  | 0,04 |
| DE0330029T7R01                   | 3,3 | 6 | 66 | 22,9 | 0,62 | 135 | 2 | ✓  | 0,04 |
| DE0340028T7R01                   | 3,4 | 6 | 66 | 22,8 | 0,64 | 135 | 2 | ✓  | 0,04 |
| DE0350028T7R01                   | 3,5 | 6 | 66 | 22,6 | 0,66 | 135 | 2 | ✓  | 0,04 |
| DE0360028T7R01                   | 3,6 | 6 | 74 | 30,3 | 0,69 | 135 | 2 | ✓  | 0,04 |
| DE0370028T7R01                   | 3,7 | 6 | 74 | 30,2 | 0,71 | 135 | 2 | ✓  | 0,04 |
| DE0380037T7R01                   | 3,8 | 6 | 74 | 30,0 | 0,73 | 135 | 2 | ✓  | 0,04 |
| DE0390037T7R01                   | 3,9 | 6 | 74 | 29,9 | 0,75 | 135 | 2 | ✓  | 0,04 |
| DE0400037T7R01                   | 4,0 | 6 | 74 | 29,6 | 0,78 | 135 | 2 | ✓  | 0,04 |
| DE0410036T7R01                   | 4,1 | 6 | 74 | 29,4 | 0,80 | 135 | 2 | ✓  | 0,04 |
| DE0420036T7R01                   | 4,2 | 6 | 74 | 29,2 | 0,82 | 135 | 2 | ✓  | 0,05 |
| DE0430036T7R01                   | 4,3 | 6 | 74 | 29,1 | 0,84 | 135 | 2 | ✓  | 0,05 |
| DE0440036T7R01                   | 4,4 | 6 | 82 | 36,8 | 0,87 | 135 | 2 | ✓  | 0,05 |
| DE0450036T7R01                   | 4,5 | 6 | 82 | 36,7 | 0,89 | 135 | 2 | ✓  | 0,05 |
| DE0460036T7R01                   | 4,6 | 6 | 82 | 36,5 | 0,91 | 135 | 2 | ✓  | 0,05 |
| DE0470036T7R01                   | 4,7 | 6 | 82 | 36,2 | 0,95 | 135 | 2 | ✓  | 0,05 |
| DE0480049T7R01                   | 4,8 | 6 | 82 | 35,9 | 0,98 | 135 | 2 | ✓  | 0,05 |
| DE0490049T7R01                   | 4,9 | 6 | 82 | 35,8 | 1,00 | 135 | 2 | ✓  | 0,05 |
| DE0500049T7R01                   | 5,0 | 6 | 82 | 35,6 | 1,02 | 135 | 2 | ✓  | 0,05 |
| DE0510049T7R01                   | 5,1 | 6 | 82 | 35,5 | 1,04 | 135 | 2 | ✓  | 0,05 |
| DE0520049T7R01                   | 5,2 | 6 | 82 | 35,0 | 1,09 | 135 | 2 | ✓  | 0,05 |
| DE0530049T7R01                   | 5,3 | 8 | 91 | 43,8 | 1,11 | 135 | 2 | ✓  | 0,06 |
| DE0540048T7R01                   | 5,4 | 8 | 91 | 43,7 | 1,13 | 135 | 2 | ✓  | 0,06 |
| DE0550048T7R01                   | 5,5 | 8 | 91 | 53,6 | 1,15 | 135 | 2 | ✓  | 0,06 |
| DE0560048T7R01                   | 5,6 | 8 | 91 | 43,1 | 1,20 | 135 | 2 | ✓  | 0,06 |
| DE0570048T7R01                   | 5,7 | 8 | 91 | 42,9 | 1,22 | 135 | 2 | ✓  | 0,06 |
| DE0580048T7R01                   | 5,8 | 8 | 91 | 42,8 | 1,24 | 135 | 2 | ✓  | 0,06 |
| DE0590048T7R01                   | 5,9 | 8 | 91 | 42,6 | 1,26 | 135 | 2 | ✓  | 0,06 |

**SOLIDDRILL<sup>2</sup> SOLID CARBIDE DRILL 8D Z=2 Ø6,0-8,8**  
**FORET CARBURE MONOBLOC 8D Z=2 Ø6,0-8,8**

ADAPTION ACC. TO DIN 6535 HA  
 ATTACHEMENT DIN 6535 HA



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2205          | + |   | + |                  |                  |                   |

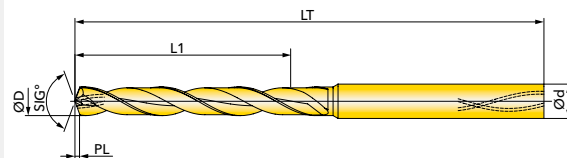


☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix
 ▼ Roughing / Ebauche
 ▼▼ Pre-finishing / Semi-finition
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D   | d  | LT  | L1   | PL   | λ   | Z | IK | kg   |
|----------------------------------|-----|----|-----|------|------|-----|---|----|------|
| DE0600048T0R01                   | 6,0 | 8  | 91  | 42,4 | 1,29 | 135 | 2 | ✓  | 0,06 |
| DE0610066T0R01                   | 6,1 | 8  | 91  | 42,2 | 1,31 | 135 | 2 | ✓  | 0,06 |
| DE0620066T0R01                   | 6,2 | 8  | 91  | 42,0 | 1,33 | 135 | 2 | ✓  | 0,06 |
| DE0630066T0R01                   | 6,3 | 8  | 91  | 41,9 | 1,35 | 135 | 2 | ✓  | 0,06 |
| DE0640066T0R01                   | 6,4 | 8  | 91  | 41,5 | 1,40 | 135 | 2 | ✓  | 0,06 |
| DE0650066T0R01                   | 6,5 | 8  | 91  | 41,3 | 1,42 | 135 | 2 | ✓  | 0,06 |
| DE0660066T0R01                   | 6,6 | 8  | 91  | 41,2 | 1,44 | 135 | 2 | ✓  | 0,06 |
| DE0670065T0R01                   | 6,7 | 8  | 91  | 41,0 | 1,46 | 135 | 2 | ✓  | 0,06 |
| DE0680065T0R01                   | 6,8 | 10 | 103 | 49,0 | 1,49 | 135 | 2 | ✓  | 0,06 |
| DE0690065T0R01                   | 6,9 | 10 | 103 | 48,5 | 1,51 | 135 | 2 | ✓  | 0,06 |
| DE0700065T0R01                   | 7,0 | 10 | 103 | 48,4 | 1,53 | 135 | 2 | ✓  | 0,06 |
| DE0710065T0R01                   | 7,1 | 10 | 103 | 48,3 | 1,55 | 135 | 2 | ✓  | 0,06 |
| DE0720065T0R01                   | 7,2 | 10 | 103 | 48,0 | 1,58 | 135 | 2 | ✓  | 0,06 |
| DE0730065T0R01                   | 7,3 | 10 | 103 | 47,8 | 1,60 | 135 | 2 | ✓  | 0,06 |
| DE0740064T0R01                   | 7,4 | 10 | 103 | 47,5 | 1,64 | 135 | 2 | ✓  | 0,06 |
| DE0750064T0R01                   | 7,5 | 10 | 103 | 47,2 | 1,67 | 135 | 2 | ✓  | 0,06 |
| DE0770064T0R01                   | 7,7 | 10 | 103 | 46,6 | 1,75 | 135 | 2 | ✓  | 0,06 |
| DE0780065T0R01                   | 7,8 | 10 | 103 | 46,3 | 1,78 | 135 | 2 | ✓  | 0,06 |
| DE0790064T0R01                   | 7,9 | 10 | 103 | 46,1 | 1,80 | 135 | 2 | ✓  | 0,06 |
| DE0800064T0R01                   | 8,0 | 12 | 118 | 55,9 | 1,84 | 135 | 2 | ✓  | 0,06 |
| DE0810082T1R01                   | 8,1 | 12 | 118 | 55,7 | 1,86 | 135 | 2 | ✓  | 0,08 |
| DE0820082T1R01                   | 8,2 | 12 | 118 | 55,6 | 1,87 | 135 | 2 | ✓  | 0,08 |
| DE0830082T1R01                   | 8,3 | 12 | 118 | 55,4 | 1,89 | 135 | 2 | ✓  | 0,08 |
| DE0840082T1R01                   | 8,4 | 12 | 118 | 54,8 | 1,97 | 135 | 2 | ✓  | 0,08 |
| DE0850082T1R01                   | 8,5 | 12 | 118 | 54,5 | 2,00 | 135 | 2 | ✓  | 0,08 |
| DE0860082T1R01                   | 8,6 | 12 | 118 | 54,4 | 2,02 | 135 | 2 | ✓  | 0,08 |
| DE0870082T1R01                   | 8,7 | 12 | 118 | 54,2 | 2,04 | 135 | 2 | ✓  | 0,08 |
| DE0880081T1R01                   | 8,8 | 12 | 118 | 53,5 | 2,13 | 135 | 2 | ✓  | 0,08 |

**SOLIDDRILL<sup>2</sup> SOLID CARBIDE DRILL 8D Z=2 Ø9,0-12,0**  
**FORET CARBURE MONOBLOC 8D Z=2 Ø9,0-12,0**

ADAPTION ACC. TO DIN 6535 HA  
 ATTACHEMENT DIN 6535 HA



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2205          | + |   | + |                  |                  |                   |

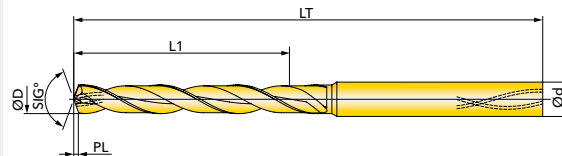


☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix
 ▼ Roughing / Ebauche
 ▼▼ Pre-finishing / Semi-finition
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D    | d  | LT  | L1 | PL   | λ   | Z | IK | kg   |
|----------------------------------|------|----|-----|----|------|-----|---|----|------|
| DE0900081T1R01                   | 9,0  | 10 | 103 | 81 | 1,66 | 135 | 2 | ✓  | 0,10 |
| DE0920081T1R01                   | 9,2  | 10 | 103 | 81 | 1,67 | 135 | 2 | ✓  | 0,10 |
| DE0930081T1R01                   | 9,3  | 10 | 103 | 81 | 1,69 | 135 | 2 | ✓  | 0,10 |
| DE0940081T1R01                   | 9,4  | 10 | 103 | 81 | 1,73 | 135 | 2 | ✓  | 0,10 |
| DE0950080T1R01                   | 9,5  | 10 | 103 | 80 | 1,74 | 135 | 2 | ✓  | 0,10 |
| DE0960080T1R01                   | 9,6  | 10 | 103 | 80 | 1,75 | 135 | 2 | ✓  | 0,10 |
| DE0970080T1R01                   | 9,7  | 10 | 103 | 80 | 1,76 | 135 | 2 | ✓  | 0,10 |
| DE0980080T1R01                   | 9,8  | 10 | 103 | 80 | 1,78 | 135 | 2 | ✓  | 0,10 |
| DE0990080T1R01                   | 9,9  | 10 | 103 | 80 | 1,81 | 135 | 2 | ✓  | 0,10 |
| DE1000080T1R01                   | 10,0 | 10 | 103 | 80 | 1,82 | 135 | 2 | ✓  | 0,10 |
| DE1010098T2R01                   | 10,1 | 12 | 118 | 98 | 1,84 | 135 | 2 | ✓  | 0,10 |
| DE1020098T2R01                   | 10,2 | 12 | 118 | 98 | 1,86 | 135 | 2 | ✓  | 0,11 |
| DE1030098T2R01                   | 10,3 | 12 | 118 | 98 | 1,87 | 135 | 2 | ✓  | 0,11 |
| DE1040098T2R01                   | 10,4 | 12 | 118 | 98 | 1,89 | 135 | 2 | ✓  | 0,11 |
| DE1050098T2R01                   | 10,5 | 12 | 118 | 98 | 1,91 | 135 | 2 | ✓  | 0,11 |
| DE1060098T2R01                   | 10,6 | 12 | 118 | 98 | 1,93 | 135 | 2 | ✓  | 0,11 |
| DE1070098T2R01                   | 10,7 | 12 | 118 | 98 | 1,94 | 135 | 2 | ✓  | 0,11 |
| DE1080097T2R01                   | 10,8 | 12 | 118 | 97 | 1,95 | 135 | 2 | ✓  | 0,11 |
| DE1090097T2R01                   | 10,9 | 12 | 118 | 97 | 1,97 | 135 | 2 | ✓  | 0,14 |
| DE1100097T2R01                   | 11,0 | 12 | 118 | 97 | 2,00 | 135 | 2 | ✓  | 0,14 |
| DE1110097T2R02                   | 11,1 | 12 | 118 | 97 | 2,02 | 135 | 2 | ✓  | 0,14 |
| DE1120097T2R01                   | 11,2 | 12 | 118 | 97 | 2,04 | 135 | 2 | ✓  | 0,14 |
| DE1130097T2R01                   | 11,3 | 12 | 118 | 97 | 2,05 | 135 | 2 | ✓  | 0,14 |
| DE1140097T2R01                   | 11,4 | 12 | 118 | 97 | 2,06 | 135 | 2 | ✓  | 0,17 |
| DE1150096T2R01                   | 11,5 | 12 | 118 | 96 | 2,09 | 135 | 2 | ✓  | 0,17 |
| DE1160096T2R01                   | 11,6 | 12 | 118 | 96 | 2,10 | 135 | 2 | ✓  | 0,17 |
| DE1170096T2R01                   | 11,7 | 12 | 118 | 96 | 2,13 | 135 | 2 | ✓  | 0,17 |
| DE1180096T2R01                   | 11,8 | 12 | 118 | 96 | 2,15 | 135 | 2 | ✓  | 0,17 |
| DE1190096T2R01                   | 11,9 | 12 | 118 | 96 | 2,17 | 135 | 2 | ✓  | 0,17 |
| DE1200096T2R01                   | 12,0 | 12 | 118 | 96 | 2,18 | 135 | 2 | ✓  | 0,17 |

**SOLIDDRILL<sup>2</sup>** SOLID CARBIDE DRILL 16D Z=2 Ø3,0-12,0  
FORET CARBURE MONOBLOC 16D Z=2 Ø3,0-12,0

ADAPTION ACC. TO DIN 6535 HA  
ATTACHEMENT DIN 6535 HA



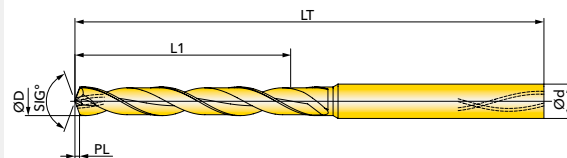
| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2005          | + |   | + |                  |                  |                   |



+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D    | d  | LT  | L1  | PL   | λ   | Z | IK | kg   |
|----------------------------------|------|----|-----|-----|------|-----|---|----|------|
| DE0300056T7R01                   | 3,0  | 6  | 100 | 56  | 0,55 | 135 | 2 | ✓  | 0,03 |
| DE0320055T7R01                   | 3,2  | 6  | 100 | 55  | 0,58 | 135 | 2 | ✓  | 0,03 |
| DE0330055T7R01                   | 3,3  | 6  | 100 | 55  | 0,60 | 135 | 2 | ✓  | 0,03 |
| DE0350055T7R01                   | 3,5  | 6  | 100 | 55  | 0,64 | 135 | 2 | ✓  | 0,03 |
| DE0380069T7R01                   | 3,8  | 6  | 115 | 69  | 0,69 | 135 | 2 | ✓  | 0,03 |
| DE0400069T7R01                   | 4,0  | 6  | 115 | 69  | 0,70 | 135 | 2 | ✓  | 0,03 |
| DE0410069T7R01                   | 4,1  | 6  | 115 | 69  | 0,75 | 135 | 2 | ✓  | 0,03 |
| DE0420069T7R01                   | 4,2  | 6  | 115 | 69  | 0,76 | 135 | 2 | ✓  | 0,03 |
| DE0450083T7R01                   | 4,5  | 6  | 130 | 83  | 0,82 | 135 | 2 | ✓  | 0,03 |
| DE0470083T7R01                   | 4,7  | 6  | 130 | 83  | 0,86 | 135 | 2 | ✓  | 0,03 |
| DE0480083T7R01                   | 4,8  | 6  | 130 | 83  | 0,87 | 135 | 2 | ✓  | 0,03 |
| DE0500082T7R01                   | 5,0  | 6  | 130 | 82  | 0,91 | 135 | 2 | ✓  | 0,03 |
| DE0550100T7R01                   | 5,5  | 6  | 150 | 100 | 1,00 | 135 | 2 | ✓  | 0,03 |
| DE0580099T7R01                   | 5,8  | 6  | 150 | 99  | 1,06 | 135 | 2 | ✓  | 0,03 |
| DE0600099T7R01                   | 6,0  | 6  | 150 | 99  | 1,09 | 135 | 2 | ✓  | 0,03 |
| DE0650115T0R01                   | 6,5  | 8  | 165 | 115 | 1,18 | 135 | 2 | ✓  | 0,03 |
| DE0680115T0R01                   | 6,8  | 8  | 165 | 115 | 1,24 | 135 | 2 | ✓  | 0,03 |
| DE0700115T0R01                   | 7,0  | 8  | 165 | 115 | 1,27 | 135 | 2 | ✓  | 0,03 |
| DE0750129T0R01                   | 7,5  | 8  | 180 | 129 | 1,37 | 135 | 2 | ✓  | 0,03 |
| DE0780128T0R01                   | 7,8  | 8  | 180 | 128 | 1,42 | 135 | 2 | ✓  | 0,03 |
| DE0800128T0R01                   | 8,0  | 8  | 180 | 128 | 1,46 | 135 | 2 | ✓  | 0,03 |
| DE0850147T1R01                   | 8,5  | 10 | 205 | 147 | 1,55 | 135 | 2 | ✓  | 0,03 |
| DE0880147T1R01                   | 8,8  | 10 | 205 | 147 | 1,60 | 135 | 2 | ✓  | 0,03 |
| DE0900147T1R01                   | 9,0  | 10 | 205 | 147 | 1,64 | 135 | 2 | ✓  | 0,03 |
| DE0980165T1R01                   | 9,8  | 10 | 225 | 165 | 1,78 | 135 | 2 | ✓  | 0,03 |
| DE1000165T1R01                   | 10,0 | 10 | 225 | 165 | 1,82 | 135 | 2 | ✓  | 0,03 |
| DE1020157T2R01                   | 10,2 | 12 | 240 | 175 | 1,86 | 135 | 2 | ✓  | 0,03 |
| DE1080174T2R01                   | 10,8 | 12 | 240 | 174 | 1,97 | 135 | 2 | ✓  | 0,03 |
| DE1100173T2R01                   | 11,0 | 12 | 240 | 173 | 2,00 | 135 | 2 | ✓  | 0,03 |
| DE1150198T2R01                   | 11,5 | 12 | 265 | 198 | 2,09 | 135 | 2 | ✓  | 0,03 |
| DE1200197T2R01                   | 12,0 | 12 | 265 | 197 | 2,18 | 135 | 2 | ✓  | 0,05 |

ADAPTION ACC. TO DIN 6535 HA  
ATTACHEMENT DIN 6535 HA



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2005          | + |   | + |                  |                  |                   |

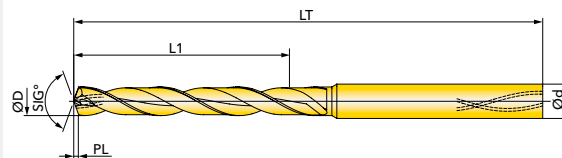


☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix
 ▼ Roughing / Ebauche
 ▼▼ Pre-finishing / Semi-finition
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D    | d  | LT  | L1  | PL   | λ   | Z | IK | kg   |
|----------------------------------|------|----|-----|-----|------|-----|---|----|------|
| DE0300076T7R01                   | 3,0  | 6  | 120 | 76  | 0,55 | 135 | 2 | ✓  | 0,03 |
| DE0320075T7R01                   | 3,2  | 6  | 120 | 75  | 0,58 | 135 | 2 | ✓  | 0,03 |
| DE0330075T7R01                   | 3,3  | 6  | 120 | 75  | 0,60 | 135 | 2 | ✓  | 0,03 |
| DE0350075T7R01                   | 3,5  | 6  | 120 | 75  | 0,64 | 135 | 2 | ✓  | 0,03 |
| DE0380084T7R01                   | 3,8  | 6  | 130 | 84  | 0,69 | 135 | 2 | ✓  | 0,03 |
| DE0400084T7R01                   | 4,0  | 6  | 130 | 84  | 0,70 | 135 | 2 | ✓  | 0,03 |
| DE0410104T7R01                   | 4,1  | 6  | 160 | 104 | 0,75 | 135 | 2 | ✓  | 0,03 |
| DE0420104T7R01                   | 4,2  | 6  | 160 | 104 | 0,76 | 135 | 2 | ✓  | 0,03 |
| DE0450103T7R01                   | 4,5  | 6  | 160 | 103 | 0,82 | 135 | 2 | ✓  | 0,03 |
| DE0470113T7R01                   | 4,7  | 6  | 160 | 113 | 0,86 | 135 | 2 | ✓  | 0,03 |
| DE0480113T7R01                   | 4,8  | 6  | 160 | 113 | 0,87 | 135 | 2 | ✓  | 0,03 |
| DE0500112T7R01                   | 5,0  | 6  | 160 | 112 | 0,91 | 135 | 2 | ✓  | 0,03 |
| DE0550132T7R01                   | 5,5  | 6  | 185 | 132 | 1,00 | 135 | 2 | ✓  | 0,03 |
| DE0580131T7R01                   | 5,8  | 6  | 185 | 131 | 1,06 | 135 | 2 | ✓  | 0,03 |
| DE0600131T7R01                   | 6,0  | 6  | 185 | 131 | 1,09 | 135 | 2 | ✓  | 0,03 |
| DE0650150T0R01                   | 6,5  | 8  | 210 | 150 | 1,18 | 135 | 2 | ✓  | 0,03 |
| DE0680150T0R01                   | 6,8  | 8  | 210 | 150 | 1,24 | 135 | 2 | ✓  | 0,03 |
| DE0700149T0R01                   | 7,0  | 8  | 210 | 149 | 1,27 | 135 | 2 | ✓  | 0,03 |
| DE0750169T0R01                   | 7,5  | 8  | 230 | 169 | 1,37 | 135 | 2 | ✓  | 0,03 |
| DE0780168T0R01                   | 7,8  | 8  | 230 | 168 | 1,42 | 135 | 2 | ✓  | 0,03 |
| DE0800168T0R01                   | 8,0  | 8  | 230 | 168 | 1,46 | 135 | 2 | ✓  | 0,03 |
| DE0850182T1R01                   | 8,5  | 10 | 260 | 182 | 1,55 | 135 | 2 | ✓  | 0,03 |
| DE0880217T1R01                   | 8,8  | 10 | 290 | 217 | 1,60 | 135 | 2 | ✓  | 0,03 |
| DE0900217T1R01                   | 9,0  | 10 | 290 | 217 | 1,64 | 135 | 2 | ✓  | 0,03 |
| DE0980215T1R01                   | 9,8  | 10 | 290 | 215 | 1,78 | 135 | 2 | ✓  | 0,03 |
| DE1000215T1R01                   | 10,0 | 10 | 290 | 215 | 1,82 | 135 | 2 | ✓  | 0,03 |
| DE1020253T2R01                   | 10,2 | 12 | 315 | 253 | 1,86 | 135 | 2 | ✓  | 0,03 |
| DE1080252T2R01                   | 10,8 | 12 | 315 | 252 | 1,97 | 135 | 2 | ✓  | 0,03 |
| DE1100252T2R01                   | 11,0 | 12 | 315 | 252 | 2,00 | 135 | 2 | ✓  | 0,03 |
| DE1150251T2R01                   | 11,5 | 12 | 315 | 251 | 2,09 | 135 | 2 | ✓  | 0,03 |
| DE1200250T2R01                   | 12,0 | 12 | 315 | 250 | 2,18 | 135 | 2 | ✓  | 0,05 |

**SOLIDDRILL<sup>2</sup> SOLID CARBIDE DRILL 25D Z=2 Ø3,0-12,0**  
**FORET CARBURE MONOBLOC 25D Z=2 Ø3,0-12,0**

ADAPTION ACC. TO DIN 6535 HA  
 ATTACHEMENT DIN 6535 HA



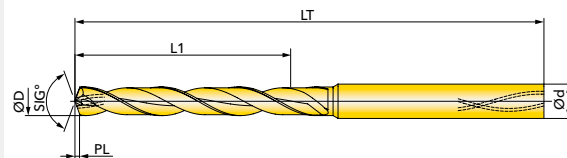
| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2005          | + |   | + |                  |                  |                   |



☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix
 ▼ Roughing / Ebauche
 ▼▼ Pre-finishing / Semi-finition
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D    | d  | LT  | L1  | PL   | λ   | Z | IK | kg   |
|----------------------------------|------|----|-----|-----|------|-----|---|----|------|
| DE0300094T7R01                   | 3,0  | 6  | 135 | 94  | 0,55 | 135 | 2 | ✓  | 0,03 |
| DE0320093T7R01                   | 3,2  | 6  | 135 | 93  | 0,58 | 135 | 2 | ✓  | 0,03 |
| DE0330093T7R01                   | 3,3  | 6  | 135 | 93  | 0,60 | 135 | 2 | ✓  | 0,03 |
| DE0350093T7R01                   | 3,5  | 6  | 135 | 93  | 0,64 | 135 | 2 | ✓  | 0,03 |
| DE0380114T7R01                   | 3,8  | 6  | 160 | 114 | 0,69 | 135 | 2 | ✓  | 0,03 |
| DE0400114T7R01                   | 4,0  | 6  | 160 | 114 | 0,70 | 135 | 2 | ✓  | 0,03 |
| DE0420114T7R01                   | 4,2  | 6  | 160 | 114 | 0,76 | 135 | 2 | ✓  | 0,03 |
| DE0450128T7R01                   | 4,5  | 6  | 180 | 128 | 0,82 | 135 | 2 | ✓  | 0,03 |
| DE0470128T7R01                   | 4,7  | 6  | 180 | 128 | 0,86 | 135 | 2 | ✓  | 0,03 |
| DE0480128T7R01                   | 4,8  | 6  | 180 | 128 | 0,87 | 135 | 2 | ✓  | 0,03 |
| DE0500128T7R01                   | 5,0  | 6  | 180 | 128 | 0,91 | 135 | 2 | ✓  | 0,03 |
| DE0550160T7R01                   | 5,5  | 6  | 205 | 160 | 1,00 | 135 | 2 | ✓  | 0,03 |
| DE0580159T7R01                   | 5,8  | 6  | 205 | 159 | 1,06 | 135 | 2 | ✓  | 0,03 |
| DE0600159T7R01                   | 6,0  | 6  | 205 | 159 | 1,09 | 135 | 2 | ✓  | 0,03 |
| DE0650190T0R01                   | 6,5  | 8  | 240 | 190 | 1,18 | 135 | 2 | ✓  | 0,03 |
| DE0680190T0R01                   | 6,8  | 8  | 240 | 190 | 1,24 | 135 | 2 | ✓  | 0,03 |
| DE0700189T0R01                   | 7,0  | 8  | 240 | 189 | 1,27 | 135 | 2 | ✓  | 0,03 |
| DE0750209T0R01                   | 7,5  | 8  | 260 | 209 | 1,37 | 135 | 2 | ✓  | 0,03 |
| DE0780208T0R01                   | 7,8  | 8  | 260 | 208 | 1,42 | 135 | 2 | ✓  | 0,03 |
| DE0800208T0R01                   | 8,0  | 8  | 260 | 208 | 1,46 | 135 | 2 | ✓  | 0,03 |
| DE0850227T1R01                   | 8,5  | 10 | 285 | 227 | 1,55 | 135 | 2 | ✓  | 0,03 |
| DE0880255T1R01                   | 8,8  | 10 | 310 | 255 | 1,60 | 135 | 2 | ✓  | 0,03 |
| DE0900255T1R01                   | 9,0  | 10 | 310 | 255 | 1,64 | 135 | 2 | ✓  | 0,03 |
| DE0980253T1R01                   | 9,8  | 10 | 310 | 253 | 1,78 | 135 | 2 | ✓  | 0,03 |
| DE1000260T1R01                   | 10   | 10 | 325 | 260 | 1,82 | 135 | 2 | ✓  | 0,03 |
| DE1020285T2R01                   | 10,2 | 12 | 350 | 285 | 1,86 | 135 | 2 | ✓  | 0,03 |
| DE1080309T2R01                   | 10,8 | 12 | 375 | 309 | 1,97 | 135 | 2 | ✓  | 0,03 |
| DE1100309T2R01                   | 11,0 | 12 | 375 | 309 | 2,00 | 135 | 2 | ✓  | 0,03 |
| DE1150308T2R01                   | 11,5 | 12 | 375 | 308 | 2,09 | 135 | 2 | ✓  | 0,03 |
| DE1190307T2R01                   | 11,9 | 12 | 375 | 307 | 2,14 | 135 | 2 | ✓  | 0,03 |
| DE1200307T2R01                   | 12,0 | 12 | 375 | 307 | 2,18 | 135 | 2 | ✓  | 0,05 |

ADAPTION ACC. TO DIN 6535 HA  
ATTACHEMENT DIN 6535 HA



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2005          | + |   | + |                  |                  |                   |

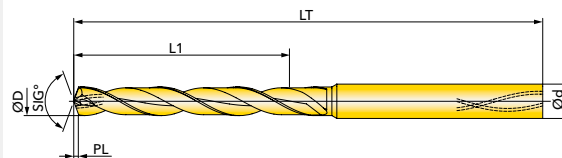


☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix
 ▼ Roughing / Ebauche
 ▼▼ Pre-finishing / Semi-finition
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D    | d  | LT  | L1  | PL   | λ   | Z | IK | kg   |
|----------------------------------|------|----|-----|-----|------|-----|---|----|------|
| DE0300101T7R01                   | 3,0  | 6  | 150 | 101 | 0,55 | 135 | 2 | ✓  | 0,03 |
| DE0320100T7R01                   | 3,2  | 6  | 150 | 100 | 0,58 | 135 | 2 | ✓  | 0,03 |
| DE0330130T7R01                   | 3,3  | 6  | 185 | 130 | 0,60 | 135 | 2 | ✓  | 0,03 |
| DE0350130T7R01                   | 3,5  | 6  | 185 | 130 | 0,64 | 135 | 2 | ✓  | 0,03 |
| DE0380129T7R01                   | 3,8  | 6  | 185 | 129 | 0,69 | 135 | 2 | ✓  | 0,03 |
| DE0400129T7R01                   | 4,0  | 6  | 185 | 129 | 0,70 | 135 | 2 | ✓  | 0,03 |
| DE0420129T7R01                   | 4,2  | 6  | 185 | 129 | 0,76 | 135 | 2 | ✓  | 0,03 |
| DE0450158T7R01                   | 4,5  | 6  | 215 | 158 | 0,82 | 135 | 2 | ✓  | 0,03 |
| DE0470158T7R01                   | 4,7  | 6  | 215 | 158 | 0,86 | 135 | 2 | ✓  | 0,03 |
| DE0480158T7R01                   | 4,8  | 6  | 215 | 158 | 0,87 | 135 | 2 | ✓  | 0,03 |
| DE0500158T7R01                   | 5,0  | 6  | 215 | 158 | 0,91 | 135 | 2 | ✓  | 0,03 |
| DE0550172T7R01                   | 5,5  | 6  | 230 | 172 | 1,00 | 135 | 2 | ✓  | 0,03 |
| DE0580171T7R01                   | 5,8  | 6  | 230 | 171 | 1,06 | 135 | 2 | ✓  | 0,03 |
| DE0600171T7R01                   | 6,0  | 6  | 230 | 171 | 1,09 | 135 | 2 | ✓  | 0,03 |
| DE0650205T0R01                   | 6,5  | 8  | 280 | 205 | 1,18 | 135 | 2 | ✓  | 0,03 |
| DE0680220T0R01                   | 6,8  | 8  | 280 | 220 | 1,24 | 135 | 2 | ✓  | 0,03 |
| DE0700219T0R01                   | 7,0  | 8  | 280 | 219 | 1,27 | 135 | 2 | ✓  | 0,03 |
| DE0750219T0R01                   | 7,5  | 8  | 280 | 219 | 1,37 | 135 | 2 | ✓  | 0,03 |
| DE0780253T0R01                   | 7,8  | 8  | 315 | 253 | 1,42 | 135 | 2 | ✓  | 0,03 |
| DE0800253T0R01                   | 8,0  | 8  | 315 | 253 | 1,46 | 135 | 2 | ✓  | 0,03 |
| DE0850282T1R01                   | 8,5  | 10 | 350 | 282 | 1,55 | 135 | 2 | ✓  | 0,03 |
| DE0880317T1R01                   | 8,8  | 10 | 380 | 317 | 1,60 | 135 | 2 | ✓  | 0,03 |
| DE0900317T1R01                   | 9,0  | 10 | 380 | 317 | 1,64 | 135 | 2 | ✓  | 0,03 |
| DE0980315T1R01                   | 9,8  | 10 | 380 | 315 | 1,78 | 135 | 2 | ✓  | 0,03 |
| DE1000315T1R01                   | 10,0 | 10 | 380 | 315 | 1,82 | 135 | 2 | ✓  | 0,03 |

**SOLIDDRILL<sup>2</sup> SOLID CARBIDE DRILL 40D Z=2 Ø3,0-8,0**  
**FORET CARBURE MONOBLOC 40D Z=2 Ø3,0-8,0**

ADAPTION ACC. TO DIN 6535 HA  
 ATTACHEMENT DIN 6535 HA



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2005          | + |   | + |                  |                  |                   |



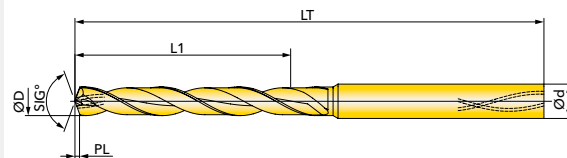
☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix
 ▼ Roughing / Ebauche
 ▼▼ Pre-finishing / Semi-finition
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D   | d | LT  | L1  | PL   | λ   | Z | IK | kg   |
|----------------------------------|-----|---|-----|-----|------|-----|---|----|------|
| DE0300136T7R01                   | 3,0 | 6 | 190 | 136 | 0,55 | 135 | 2 | ✓  | 0,03 |
| DE0380174T7R01                   | 3,8 | 6 | 230 | 174 | 0,69 | 135 | 2 | ✓  | 0,03 |
| DE0400174T7R01                   | 4,0 | 6 | 230 | 174 | 0,70 | 135 | 2 | ✓  | 0,03 |
| DE0420174T7R01                   | 4,2 | 6 | 230 | 174 | 0,76 | 135 | 2 | ✓  | 0,03 |
| DE0450213T7R01                   | 4,5 | 6 | 270 | 213 | 0,82 | 135 | 2 | ✓  | 0,03 |
| DE0470213T7R01                   | 4,7 | 6 | 270 | 213 | 0,86 | 135 | 2 | ✓  | 0,03 |
| DE0480213T7R01                   | 4,8 | 6 | 270 | 213 | 0,87 | 135 | 2 | ✓  | 0,03 |
| DE0500212T7R01                   | 5,0 | 6 | 270 | 212 | 0,91 | 135 | 2 | ✓  | 0,03 |
| DE0550232T7R01                   | 5,5 | 6 | 290 | 232 | 1,00 | 135 | 2 | ✓  | 0,03 |
| DE0580231T7R01                   | 5,8 | 6 | 290 | 231 | 1,06 | 135 | 2 | ✓  | 0,03 |
| DE0600231T7R01                   | 6,0 | 6 | 290 | 231 | 1,09 | 135 | 2 | ✓  | 0,03 |
| DE0650280T0R01                   | 6,5 | 8 | 340 | 280 | 1,18 | 135 | 2 | ✓  | 0,03 |
| DE0680310T0R01                   | 6,8 | 8 | 370 | 310 | 1,24 | 135 | 2 | ✓  | 0,03 |
| DE0700309T0R01                   | 7,0 | 8 | 370 | 309 | 1,27 | 135 | 2 | ✓  | 0,03 |
| DE0750309T0R01                   | 7,5 | 8 | 370 | 309 | 1,37 | 135 | 2 | ✓  | 0,03 |
| DE0780338T0R01                   | 7,8 | 8 | 400 | 338 | 1,42 | 135 | 2 | ✓  | 0,03 |
| DE0800338T0R01                   | 8,0 | 8 | 400 | 338 | 1,46 | 135 | 2 | ✓  | 0,03 |



**SOLIDDRILL<sup>2</sup> SOLID CARBIDE DRILL 50D Z=2 Ø4,0-6,0**  
**FORET CARBURE MONOBLOC 50D Z=2 Ø4,0-6,0**

ADAPTION ACC. TO DIN 6535 HA  
 ATTACHEMENT DIN 6535 HA



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |
|-----------------|---|---|---|------------------|------------------|-------------------|
| IN2005          | + |   | + |                  |                  |                   |

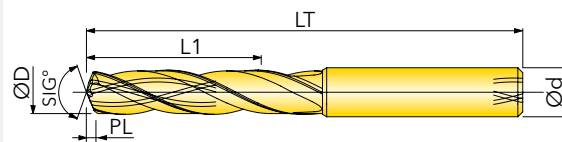
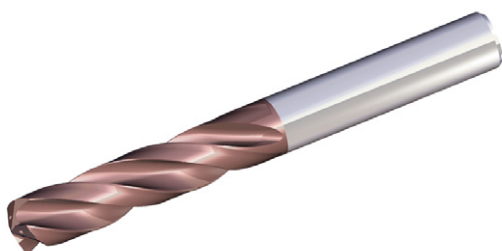


☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix
 ▼ Roughing / Ebauche
 ▼▼ Pre-finishing / Semi-finition
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D   | d | LT  | L1  | PL   | λ   | Z | IK | kg   |
|----------------------------------|-----|---|-----|-----|------|-----|---|----|------|
| DE0400249T7R01                   | 4,0 | 6 | 270 | 225 | 0,70 | 135 | 2 | ✓  | 0,03 |
| DE0420219T7R01                   | 4,2 | 6 | 270 | 225 | 0,76 | 135 | 2 | ✓  | 0,03 |
| DE0450268T7R01                   | 4,5 | 6 | 320 | 275 | 0,82 | 135 | 2 | ✓  | 0,03 |
| DE0470268T7R01                   | 4,7 | 6 | 320 | 275 | 0,86 | 135 | 2 | ✓  | 0,03 |
| DE0480268T7R01                   | 4,8 | 6 | 320 | 275 | 0,87 | 135 | 2 | ✓  | 0,03 |
| DE0500268T7R01                   | 5,0 | 6 | 320 | 275 | 0,91 | 135 | 2 | ✓  | 0,03 |
| DE0550302T7R01                   | 5,5 | 6 | 360 | 310 | 1,00 | 135 | 2 | ✓  | 0,03 |
| DE0580301T7R01                   | 5,8 | 6 | 360 | 310 | 1,06 | 135 | 2 | ✓  | 0,03 |
| DE0600301T7R01                   | 6,0 | 6 | 360 | 310 | 1,09 | 135 | 2 | ✓  | 0,03 |

**SOLIDDRILL<sup>3</sup>** SOLID CARBIDE DRILL 3D Z=3 Ø4,0-12,0  
FORET CARBURE MONOBLOC 3D Z=3 Ø4,0-12,0

ADAPTION ACC. TO DIN 6535 HA  
ATTACHEMENT DIN 6535 HA

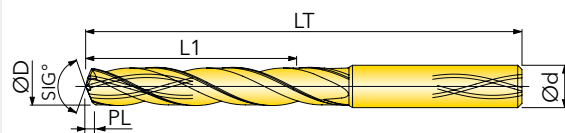
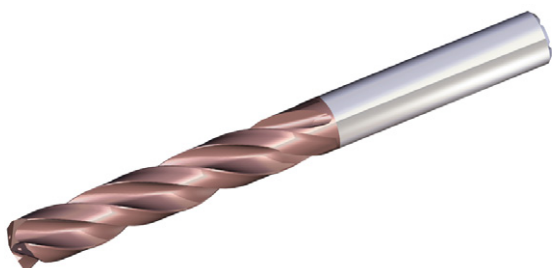


| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |  | D | m7 |  |  |  |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|--|---|----|--|--|--|--|--|--|--|--|--|--|
| IN2205          | + |   | + |                  |                  |                   |  | d | h6 |  |  |  |  |  |  |  |  |  |  |

+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D    | d  | LT  | L1 | PL   | λ   | Z |   |      |
|----------------------------------|------|----|-----|----|------|-----|---|---|------|
| FR0400017T7R01                   | 4    | 6  | 66  | 17 | 0,82 | 140 | 3 | ✓ | 0,02 |
| FR0450017T7R01                   | 4,5  | 6  | 66  | 17 | 0,88 | 140 | 3 | ✓ | 0,02 |
| FR0500020T7R01                   | 5    | 6  | 66  | 20 | 0,96 | 140 | 3 | ✓ | 0,02 |
| FR0550020T7R01                   | 5,5  | 6  | 66  | 20 | 1,08 | 140 | 3 | ✓ | 0,02 |
| FR0600020T7R01                   | 6    | 6  | 66  | 20 | 1,17 | 140 | 3 | ✓ | 0,02 |
| FR0650024T0R01                   | 6,5  | 8  | 79  | 24 | 1,26 | 140 | 3 | ✓ | 0,04 |
| FR0680024T0R01                   | 6,8  | 8  | 79  | 24 | 1,31 | 140 | 3 | ✓ | 0,04 |
| FR0700024T0R01                   | 7    | 8  | 79  | 24 | 1,35 | 140 | 3 | ✓ | 0,04 |
| FR0750029T0R01                   | 7,5  | 8  | 79  | 29 | 1,40 | 140 | 3 | ✓ | 0,04 |
| FR0800029T0R01                   | 8    | 8  | 79  | 29 | 1,49 | 140 | 3 | ✓ | 0,05 |
| FR0850035T1R01                   | 8,5  | 10 | 89  | 35 | 1,63 | 140 | 3 | ✓ | 0,07 |
| FR0900035T1R01                   | 9    | 10 | 89  | 35 | 1,72 | 140 | 3 | ✓ | 0,07 |
| FR0950035T1R01                   | 9,5  | 10 | 89  | 35 | 1,75 | 140 | 3 | ✓ | 0,08 |
| FR1000035T1R01                   | 10   | 10 | 89  | 35 | 1,85 | 140 | 3 | ✓ | 0,08 |
| FR1050040T2R01                   | 10,5 | 12 | 102 | 40 | 1,98 | 140 | 3 | ✓ | 0,12 |
| FR1100040T2R01                   | 11   | 12 | 102 | 40 | 2,07 | 140 | 3 | ✓ | 0,12 |
| FR1150040T2R01                   | 11,5 | 12 | 102 | 40 | 2,12 | 140 | 3 | ✓ | 0,12 |
| FR1200040T2R01                   | 12   | 12 | 102 | 40 | 2,21 | 140 | 3 | ✓ | 0,13 |

ADAPTION ACC. TO DIN 6535 HA  
ATTACHEMENT DIN 6535 HA



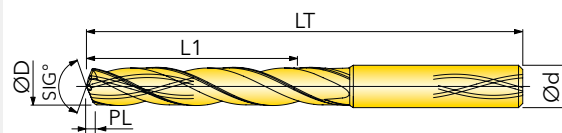
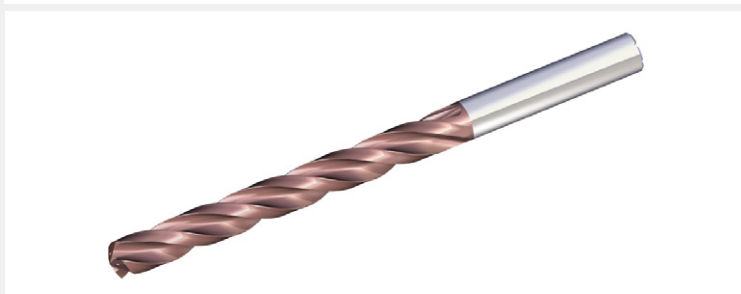
| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> | ▼ | D | m7 |  |  |  |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|---|---|----|--|--|--|--|--|--|--|--|--|--|
| IN2205          | + |   | + |                  |                  |                   |   | d | h6 |  |  |  |  |  |  |  |  |  |  |

☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix
 ▼ Roughing / Ebauche
 ▼▼ Pre-finishing / Semi-finition
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D    | d  | LT  | L1 | PL   | λ   | Z | IK | kg   |
|----------------------------------|------|----|-----|----|------|-----|---|----|------|
| FR0400029T7R01                   | 4    | 6  | 74  | 29 | 0,82 | 140 | 3 | ✓  | 0,02 |
| FR0450029T7R01                   | 4,5  | 6  | 74  | 29 | 0,88 | 140 | 3 | ✓  | 0,02 |
| FR0500035T7R01                   | 5    | 6  | 82  | 35 | 0,96 | 140 | 3 | ✓  | 0,02 |
| FR0550035T7R01                   | 5,5  | 6  | 82  | 35 | 1,08 | 140 | 3 | ✓  | 0,03 |
| FR0600035T7R01                   | 6    | 6  | 82  | 35 | 1,17 | 140 | 3 | ✓  | 0,03 |
| FR0650043T0R01                   | 6,5  | 8  | 91  | 43 | 1,26 | 140 | 3 | ✓  | 0,04 |
| FR0680043T0R01                   | 6,8  | 8  | 91  | 43 | 1,31 | 140 | 3 | ✓  | 0,04 |
| FR0700043T0R01                   | 7    | 8  | 91  | 43 | 1,35 | 140 | 3 | ✓  | 0,05 |
| FR0750043T0R01                   | 7,5  | 8  | 91  | 43 | 1,40 | 140 | 3 | ✓  | 0,05 |
| FR0800043T0R01                   | 8    | 8  | 91  | 43 | 1,49 | 140 | 3 | ✓  | 0,05 |
| FR0850049T1R01                   | 8,5  | 10 | 103 | 49 | 1,63 | 140 | 3 | ✓  | 0,08 |
| FR0900049T1R01                   | 9    | 10 | 103 | 49 | 1,72 | 140 | 3 | ✓  | 0,08 |
| FR0950049T1R01                   | 9,5  | 10 | 103 | 49 | 1,75 | 140 | 3 | ✓  | 0,08 |
| FR1000049T1R01                   | 10   | 10 | 103 | 49 | 1,85 | 140 | 3 | ✓  | 0,09 |
| FR1050056T2R01                   | 10,5 | 12 | 118 | 56 | 1,98 | 140 | 3 | ✓  | 0,12 |
| FR1100056T2R01                   | 11   | 12 | 118 | 56 | 2,07 | 140 | 3 | ✓  | 0,12 |
| FR1150056T2R01                   | 11,5 | 12 | 118 | 56 | 2,12 | 140 | 3 | ✓  | 0,13 |
| FR1200056T2R01                   | 12   | 12 | 118 | 56 | 2,21 | 140 | 3 | ✓  | 0,13 |

**SOLIDDRILL<sup>3</sup>** SOLID CARBIDE DRILL 8D Z=3 Ø4,0-12,0  
FORET CARBURE MONOBLOC 8D Z=3 Ø4,0-12,0

ADAPTION ACC. TO DIN 6535 HA  
ATTACHEMENT DIN 6535 HA



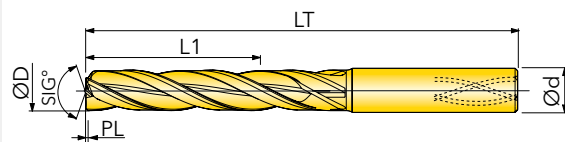
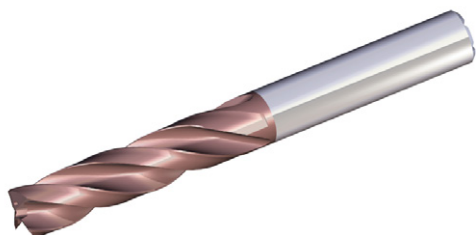
| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |  | D | m7 |  |  |  |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|--|---|----|--|--|--|--|--|--|--|--|--|--|
| IN2205          | + |   | + |                  |                  |                   |  | d | h6 |  |  |  |  |  |  |  |  |  |  |

+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D    | d  | LT  | L1 | PL   | λ   | Z |   |       |
|----------------------------------|------|----|-----|----|------|-----|---|---|-------|
| FR0400036T7R01                   | 4    | 6  | 74  | 17 | 0,17 | 140 | 3 | ✓ | 0,022 |
| FR0450036T7R01                   | 4,5  | 6  | 74  | 17 | 0,19 | 140 | 3 | ✓ | 0,023 |
| FR0500048T7R01                   | 5    | 6  | 82  | 20 | 0,21 | 140 | 3 | ✓ | 0,023 |
| FR0550048T7R01                   | 5,5  | 6  | 82  | 20 | 0,23 | 140 | 3 | ✓ | 0,025 |
| FR0600048T7R01                   | 6    | 6  | 82  | 20 | 0,23 | 140 | 3 | ✓ | 0,030 |
| FR0650064T0R01                   | 6,5  | 8  | 91  | 24 | 0,28 | 140 | 3 | ✓ | 0,047 |
| FR0700064T0R01                   | 7    | 8  | 91  | 24 | 0,28 | 140 | 3 | ✓ | 0,049 |
| FR0750064T0R01                   | 7,5  | 8  | 91  | 29 | 0,32 | 140 | 3 | ✓ | 0,052 |
| FR0800064T0R01                   | 8    | 8  | 91  | 29 | 0,32 | 140 | 3 | ✓ | 0,055 |
| FR0850080T1R01                   | 8,5  | 10 | 103 | 35 | 0,36 | 130 | 3 | ✓ | 0,086 |
| FR0900080T1R01                   | 9    | 10 | 103 | 35 | 0,36 | 130 | 3 | ✓ | 0,090 |
| FR0950080T1R01                   | 9,5  | 10 | 103 | 35 | 0,39 | 130 | 3 | ✓ | 0,094 |
| FR1000080T1R01                   | 10   | 10 | 103 | 35 | 0,39 | 130 | 3 | ✓ | 0,105 |
| FR1050096T2R01                   | 10,5 | 12 | 118 | 40 | 0,43 | 130 | 3 | ✓ | 0,142 |
| FR1100096T2R01                   | 11   | 12 | 118 | 40 | 0,43 | 130 | 3 | ✓ | 0,146 |
| FR1150096R2T01                   | 11,5 | 12 | 118 | 40 | 0,46 | 130 | 3 | ✓ | 0,151 |
| FR1200096T2R01                   | 12   | 12 | 118 | 40 | 0,46 | 130 | 3 | ✓ | 0,158 |

**SOLIDDRILL<sup>3</sup> SOLID CARBIDE DRILL 3D Z=3 Ø4,0-12,0 (FLAT GROUND)**  
**FORET CARBURE MONOBLOC 3D Z=3 Ø4,0-12,0 (FOND PLAT)**

ADAPTION ACC. TO DIN 6535 HA  
 ATTACHEMENT DIN 6535 HA



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> | ▼ | D | m7 |  |  |  |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|---|---|----|--|--|--|--|--|--|--|--|--|--|
| IN2205          | + |   | + |                  |                  |                   |   | d | h6 |  |  |  |  |  |  |  |  |  |  |

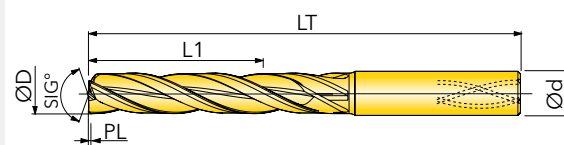
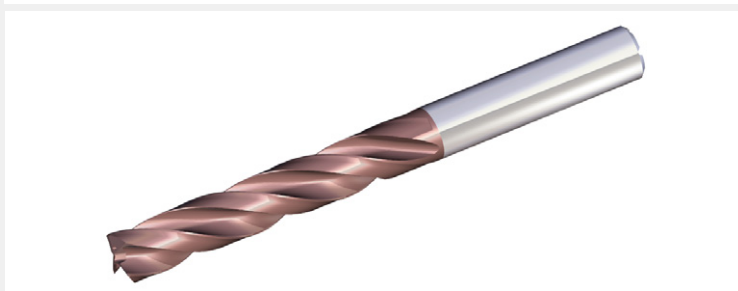


☒ Preferred choice / Premier choix
 ☐ Second choice / Second choix
 ▼ Roughing / Ebauche
 ▼▼ Pre-finishing / Semi-finition
 ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D    | d  | LT  | L1 | PL   | λ   | Z | IK | kg   |
|----------------------------------|------|----|-----|----|------|-----|---|----|------|
| FF0400017T7R01                   | 4    | 6  | 66  | 17 | 0,17 | 125 | 3 | ✓  | 0,02 |
| FF0450017T7R01                   | 4,5  | 6  | 66  | 17 | 0,19 | 125 | 3 | ✓  | 0,02 |
| FF0500020T7R01                   | 5    | 6  | 66  | 20 | 0,21 | 125 | 3 | ✓  | 0,02 |
| FF0550020T7R01                   | 5,5  | 6  | 66  | 20 | 0,23 | 125 | 3 | ✓  | 0,02 |
| FF0600020T7R01                   | 6    | 6  | 66  | 20 | 0,23 | 125 | 3 | ✓  | 0,02 |
| FF0650024T0R01                   | 6,5  | 8  | 79  | 24 | 0,28 | 125 | 3 | ✓  | 0,04 |
| FF0700024T0R01                   | 7    | 8  | 79  | 24 | 0,28 | 125 | 3 | ✓  | 0,04 |
| FF0750029T0R01                   | 7,5  | 8  | 79  | 29 | 0,32 | 125 | 3 | ✓  | 0,04 |
| FF0800029T0R01                   | 8    | 8  | 79  | 29 | 0,32 | 125 | 3 | ✓  | 0,05 |
| FF0850035T1R01                   | 8,5  | 10 | 89  | 35 | 0,36 | 125 | 3 | ✓  | 0,07 |
| FF0900035T1R01                   | 9    | 10 | 89  | 35 | 0,36 | 125 | 3 | ✓  | 0,07 |
| FF0950035T1R01                   | 9,5  | 10 | 89  | 35 | 0,39 | 125 | 3 | ✓  | 0,08 |
| FF1000035T1R01                   | 10   | 10 | 89  | 35 | 0,39 | 125 | 3 | ✓  | 0,08 |
| FF1050040T2R01                   | 10,5 | 12 | 102 | 40 | 0,43 | 125 | 3 | ✓  | 0,12 |
| FF1100040T2R01                   | 11   | 12 | 102 | 40 | 0,43 | 125 | 3 | ✓  | 0,12 |
| FF1150040R2T01                   | 11,5 | 12 | 102 | 40 | 0,46 | 125 | 3 | ✓  | 0,12 |
| FF1200040T2R01                   | 12   | 12 | 102 | 40 | 0,46 | 125 | 3 | ✓  | 0,13 |

**SOLIDDRILL<sup>3</sup> SOLID CARBIDE DRILL 5D Z=3 Ø4,0-12,0 (FLAT GROUND)**  
**FORET CARBURE MONOBLOC 5D Z=3 Ø4,0-12,0 (FOND PLAT)**

ADAPTION ACC. TO DIN 6535 HA  
 ATTACHEMENT DIN 6535 HA



| Grade<br>Nuance | P | M | K | N <sub>(K)</sub> | S <sub>(M)</sub> | H <sub>(PK)</sub> |  | D | m7 |  |  |  |  |  |  |  |  |
|-----------------|---|---|---|------------------|------------------|-------------------|--|---|----|--|--|--|--|--|--|--|--|
| IN2205          | + |   | + |                  |                  |                   |  | d | h6 |  |  |  |  |  |  |  |  |

+ Preferred choice / Premier choix    ○ Second choice / Second choix    ▼ Roughing / Ebauche    ▼▼ Pre-finishing / Semi-finition    ▼▼▼ Finishing / Finition

| Designation<br>Réf. de l'article | D    | d  | LT  | L1 | PL   | λ   | Z |   |      |
|----------------------------------|------|----|-----|----|------|-----|---|---|------|
| FF0400029T7R01                   | 4    | 6  | 74  | 29 | 0,17 | 125 | 3 | ✓ | 0,02 |
| FF0450029T7R01                   | 4,5  | 6  | 74  | 29 | 0,19 | 125 | 3 | ✓ | 0,02 |
| FF0500035T7R01                   | 5    | 6  | 82  | 35 | 0,21 | 125 | 3 | ✓ | 0,02 |
| FF0550035T7R01                   | 5,5  | 6  | 82  | 35 | 0,23 | 125 | 3 | ✓ | 0,02 |
| FF0600035T7R01                   | 6    | 6  | 82  | 35 | 0,23 | 125 | 3 | ✓ | 0,02 |
| FF0650043T0R01                   | 6,5  | 8  | 91  | 43 | 0,28 | 125 | 3 | ✓ | 0,04 |
| FF0700043T0R01                   | 7    | 8  | 91  | 43 | 0,28 | 125 | 3 | ✓ | 0,04 |
| FF0750043T0R01                   | 7,5  | 8  | 91  | 43 | 0,32 | 125 | 3 | ✓ | 0,04 |
| FF0800043T0R01                   | 8    | 8  | 91  | 43 | 0,32 | 125 | 3 | ✓ | 0,05 |
| FF0850049T1R01                   | 8,5  | 10 | 103 | 49 | 0,36 | 125 | 3 | ✓ | 0,07 |
| FF0900049T1R01                   | 9    | 10 | 103 | 49 | 0,36 | 125 | 3 | ✓ | 0,07 |
| FF0950049T1R01                   | 9,5  | 10 | 103 | 49 | 0,39 | 125 | 3 | ✓ | 0,08 |
| FF1000049T1R01                   | 10   | 10 | 103 | 49 | 0,39 | 125 | 3 | ✓ | 0,08 |
| FF1050056T2R01                   | 10,5 | 12 | 118 | 56 | 0,43 | 125 | 3 | ✓ | 0,12 |
| FF1100056T2R01                   | 11   | 12 | 118 | 56 | 0,43 | 125 | 3 | ✓ | 0,12 |
| FF1150056R2T01                   | 11,5 | 12 | 118 | 56 | 0,46 | 125 | 3 | ✓ | 0,12 |
| FF1200056T2R01                   | 12   | 12 | 118 | 56 | 0,46 | 125 | 3 | ✓ | 0,13 |

NOTES



Ingersoll Werkzeuge is present all over the world – at tool shows and congresses of the milling and machine tool industry as well as at house exhibitions of leading machine tool manufacturers.

To intensify the direct contact to our customers, we organize special seminars and application-specific training courses in our customer centers in Haiger and Horrheim/Germany and Rockford/USA.

Current dates and up-to-date information on our seminars are stated under: [www.ingersoll-imc.de](http://www.ingersoll-imc.de) and [www.ingersoll-imc.com](http://www.ingersoll-imc.com)





## CUSTOMERS - INTENSIFY CONTACTS



Ingersoll Werkzeuge GmbH est présent dans le monde entier lors de salons et congrès sur l'industrie du fraisage et de la machine-outil, ainsi qu'aux portes ouvertes des fabricants leader en machines.

Pour assurer les relations directes avec nos clients, nous organisons des séminaires et des formations sur des applications spécifiques dans nos centres techniques de Haiger/Allemagne et Rockford/USA.

Les dates et informations utiles sur nos séminaires sont disponibles sur: [www.ingersoll-imc.fr](http://www.ingersoll-imc.fr)





**Ingersoll is a worldwide operating manufacturer of milling, boring, threading and turning tools for demanding machining operations.**

Our main production plants in Haiger and Horrheim in Germany as well as Rockford in the United States, supply customers all over the world. Experienced and well-trained representatives in over 45 countries ensure a network of on-site advice and assistance. Ingersoll's complete range of performance and service is available to our customers – all over the world.



**Marketing Standort Haiger (Germany)**





Marketing office Rockford (USA)

**Ingersoll est un fabricant mondial d'outils coupants destinés aux opérations de fraisage et tournage.**

Nos principaux sites de fabrication, à Haiger et à Horrheim en Allemagne ainsi qu'à Rockford aux USA, fournissent nos clients dans le monde entier. Dans plus de 45 pays, nos représentants expérimentés et formés à notre technologie, constituent un réseau d'assistance et de conseils sur site. La gamme complète de produits performants et services Ingersoll est accessible à nos clients - partout dans le monde.



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Marketing & Technology

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